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Fazantendreef 17-19

8251 JR Dronten

T: 0321 769022

E: info@pick-upnaalden.nl

W: www.pickupnaalden.com

W: www.pickupnaald.com

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SERVICE MANUAL

MODEL	JP	E3	E2	EK	K2A	E1C	E1K	EUT
DP-200USB		✓	✓					

FULL AUTOMATIC TURNTABLE SYSTEM

● For purposes of improvement, specifications and design are subject to change without notice.

● Please use this service manual with referring to the operating instructions without fail.

● Some illustrations using in this service manual are slightly different from the actual set.

DENON

Denon Brand Company, D&M Holdings Inc.

SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 460 kohms, the unit is defective.

CAUTION

Please heed the points listed below during servicing and inspection.

◎ Heed the cautions!

Spots requiring particular attention when servicing, such as the cabinet, parts, chassis, etc., have cautions indicated on labels. Be sure to heed these cautions and the cautions indicated in the handling instructions.


◎ Caution concerning electric shock!

- (1) An AC voltage is impressed on this set, so touching internal metal parts when the set is energized could cause electric shock. Take care to avoid electric shock, by for example using an isolating transformer and gloves when servicing while the set is energized, unplugging the power cord when replacing parts, etc.
- (2) There are high voltage parts inside. Handle with extra care when the set is energized.

◎ Caution concerning disassembly and assembly!

Through great care is taken when manufacturing parts from sheet metal, there may in some rare cases be burrs on the edges of parts which could cause injury if fingers are moved across them. Use gloves to protect your hands.

◎ Only use designated parts!

The set's parts have specific safety properties (fire resistance, voltage resistance, etc.). For replacement parts, be sure to use parts which have the same properties. In particular, for the important safety parts that are marked  on wiring diagrams and parts lists, be sure to use the designated parts.

◎ Be sure to mount parts and arrange the wires as they were originally!

For safety reasons, some parts use tape, tubes or other insulating materials, and some parts are mounted away from the surface of printed circuit boards. Care is also taken with the positions of the wires and clamps are used to keep wires away from heating and high voltage parts, so be sure to set everything back as it was originally.

◎ Inspect for safety after servicing!

Check that all screws, parts and wires removed or disconnected for servicing have been put back in their original positions, inspect that no parts around the area that has been serviced have been negatively affected, conduct an insulation check on the external metal connectors and between the blades of the power plug, and otherwise check that safety is ensured.



(Insulation check procedure)

Unplug the power cord from the power outlet, disconnect the antenna, plugs, etc., and turn the power switch on. Using a 500V insulation resistance tester, check that the inplug and the externally exposed metal parts (antenna terminal, headphones terminal, input terminal, etc.) is 1MΩ or greater. If it is less, the set must be inspected and repaired.

CAUTION

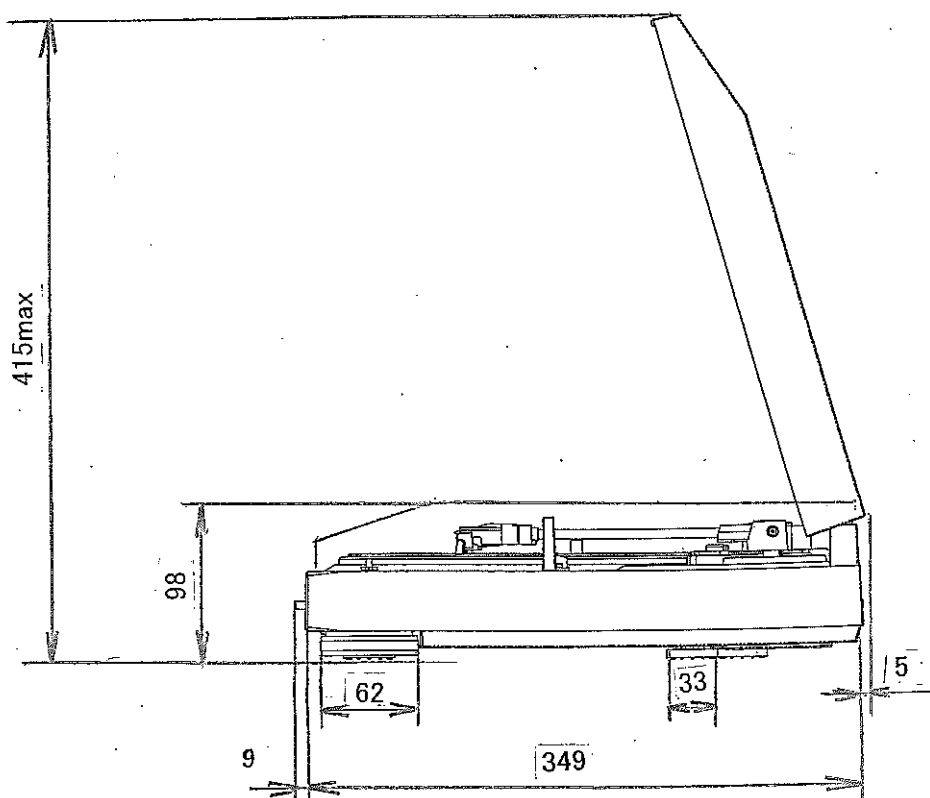
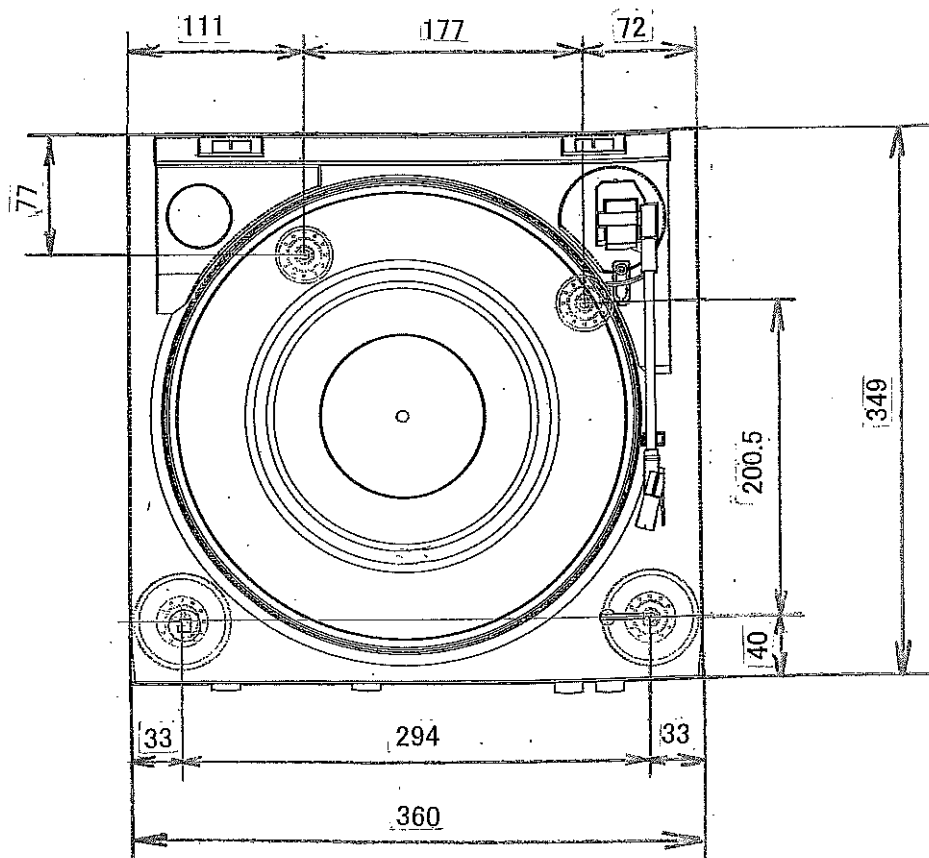
Concerning important safety parts

Many of the electric and structural parts used in the set have special safety properties. In most cases these properties are difficult to distinguish by sight, and using replacement parts with higher ratings (rated power and withstand voltage) does not necessarily guarantee that safety performance will be preserved. Parts with safety properties are indicated as shown below on the wiring diagrams and parts lists in this service manual. Be sure to replace them with parts with the designated part number.

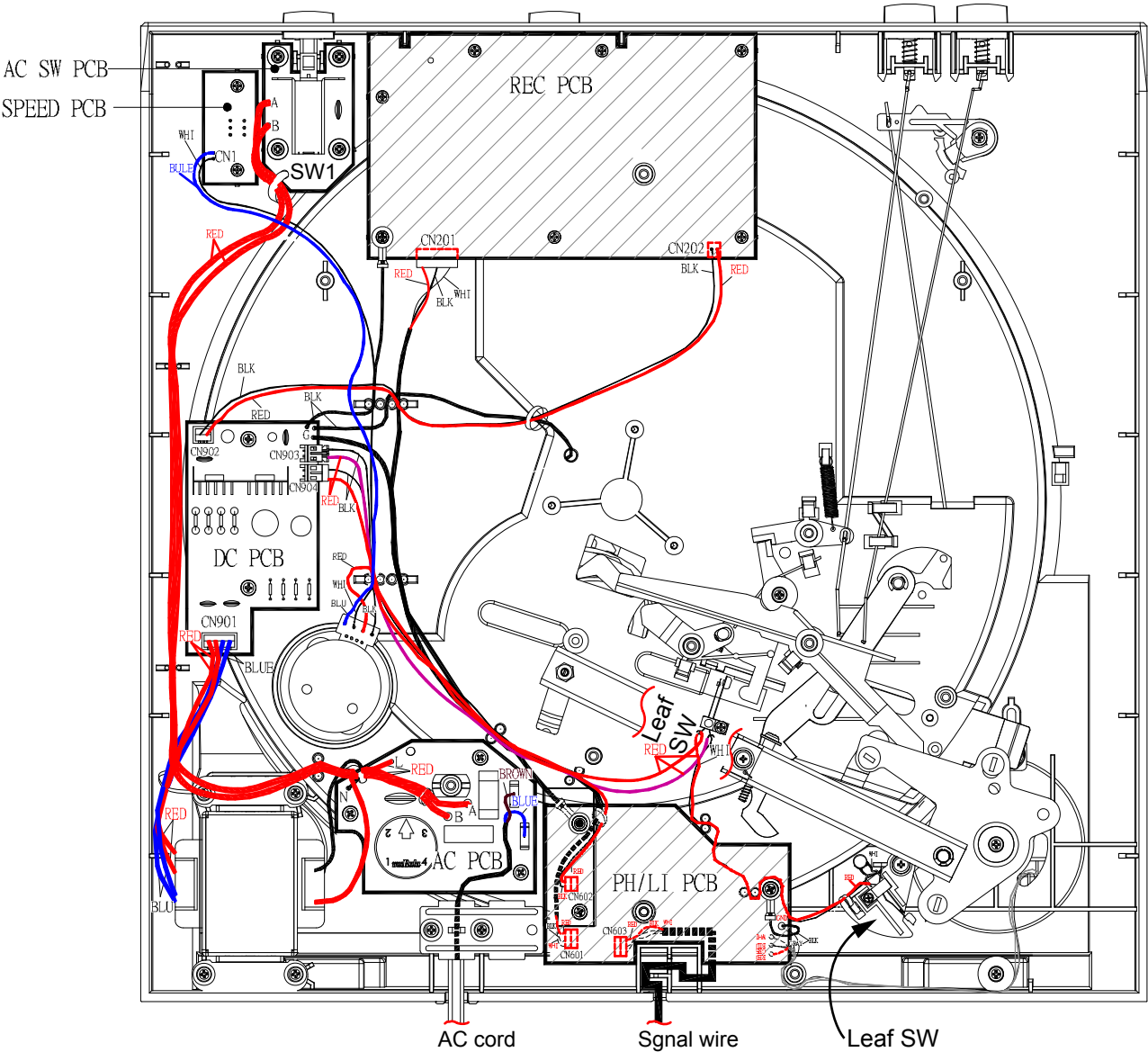
- (1) Schematic diagrams Indicated by the  mark.
- (2) Parts lists Indicated by the  mark.

Using parts other than the designated parts could result in electric shock, fires or other dangerous situations.

DIMENSION



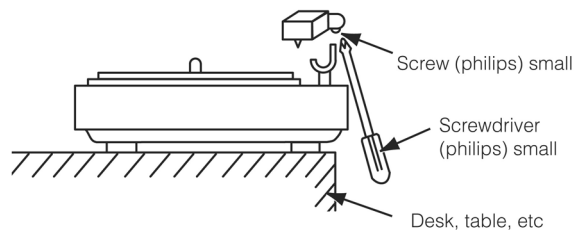
WIRE ARRANGEMENT



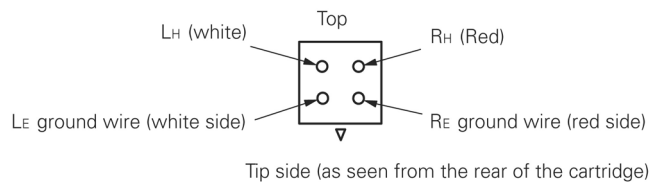
CARTRIDGE REPLACEMENT

(The cartridge forms a single body with the head shell. Use the following procedure to replace it.)

1. Remove the screw on the bottom of the head shell as shown in the diagram.

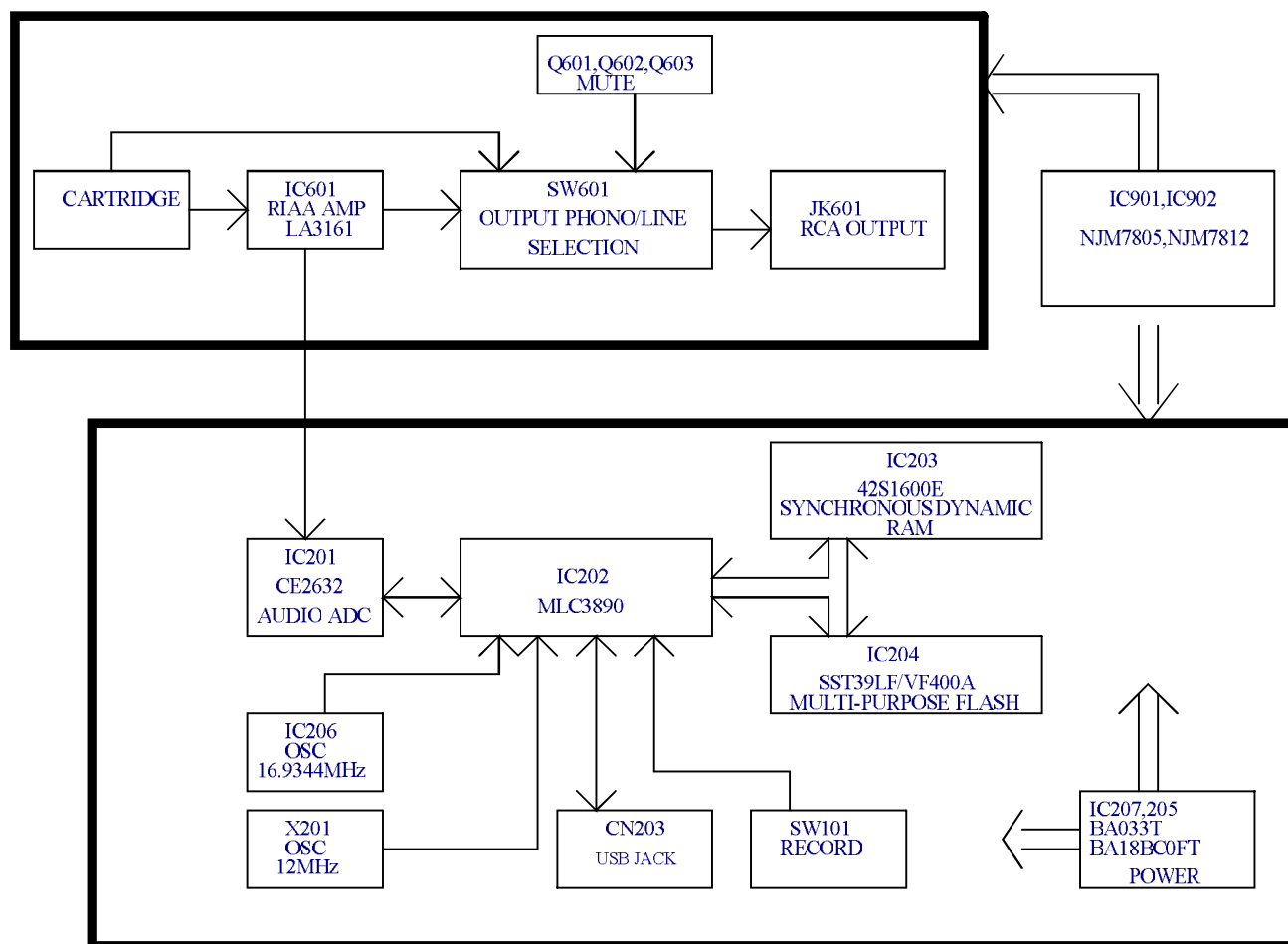


2. Rotate the entire head shell gently in both directions.
The neck of the head shell is attached to the pipe arm.
Turn it gently until the shell comes loose.
3. Carefully remove the head shell.
(Be careful not to break the lead wire.)
4. Remove the tip of the lead wire from the cartridge terminal.
5. Install the new cartridge (with head shell).
The polarities are as shown on the diagram.



6. Assemble by following the removal procedure in reverse order.
Use one drop of Cemedyne #3000 to attach the neck of the head shell and the pipe arm.

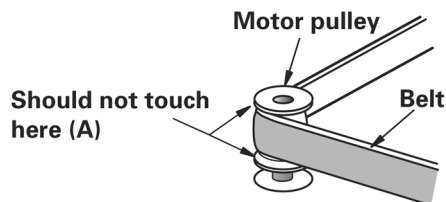
BLOCK DIAGRAMS



METHOD OF ADJUSTMENT

1.Relationship between belt and pulley.

Check that the belt is not touching the collars (A) of the motor pulley. If it is, remove the turntable and reattach the belt at the center of the turntable skirt.



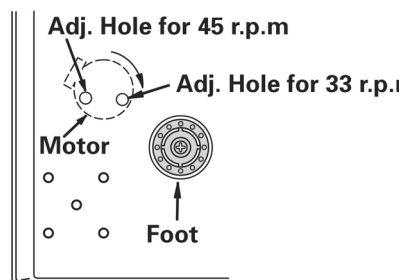
2.Speed adjustment

If the speed is off, adjust it with the variable resistor on the motor control board.

Adjust for 33 r.p.m first, then set at 45 r.p.m and check.

After adjusting, check the two speeds (33 and 45 r.p.m) once again.

This diagram shows the bottom panel



3.Lead in and lead out adjustment

- (1) Lead in
(test record: Hitachi HT-5 (30cm))
Check that the stylus lowers at 5 to 25 counts for both 17cm and 30 cm records.
- (2) Lead out
(Test record: Nippon Columbia EM-1001 (17cm))
Check that the pickup returns at 3 to 15 counts (3mm pitch).
If the counts are off, adjust as follows:
 - (a) Fasten the pickup to the arm rest.
 - (b) Insert a screwdriver into the lead in or lead out adjustment holes and adjust.

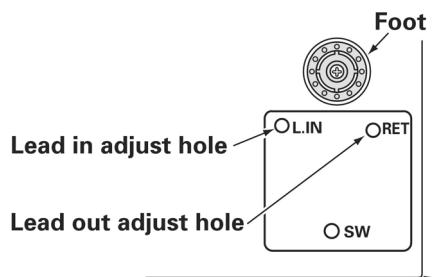
Lead in

- Count increases when turned clockwise
- Count decreases when turned counterclockwise

Lead out

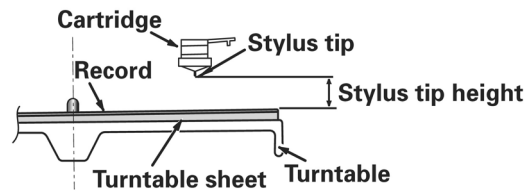
- Count increases when turned clockwise
- Count decreases when turned counterclockwise

This diagram shows the bottom panel.

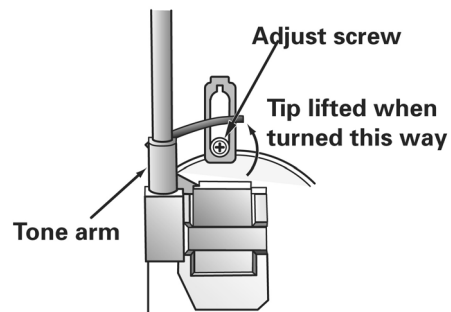


4. Stylus tip height adjustment

- (1) Adjust the stylus tip height under standard conditions.
(Standard conditions: with the turntable, turntable sheet, and record set)
- (2) The stylus tip height should be adjusted to about 6mm when returned (5-7mm at the outermost position for 17cm records).
- (3) If the stylus tip is too high, sound may be distorted and the stylus may not advance.
If it is too low, it may scratch the record when returning.



- (4) Adjust using the lifter screw.
 - Turn clockwise to lower the stylus tip.
 - Turn counterclockwise to lift the stylus tip.



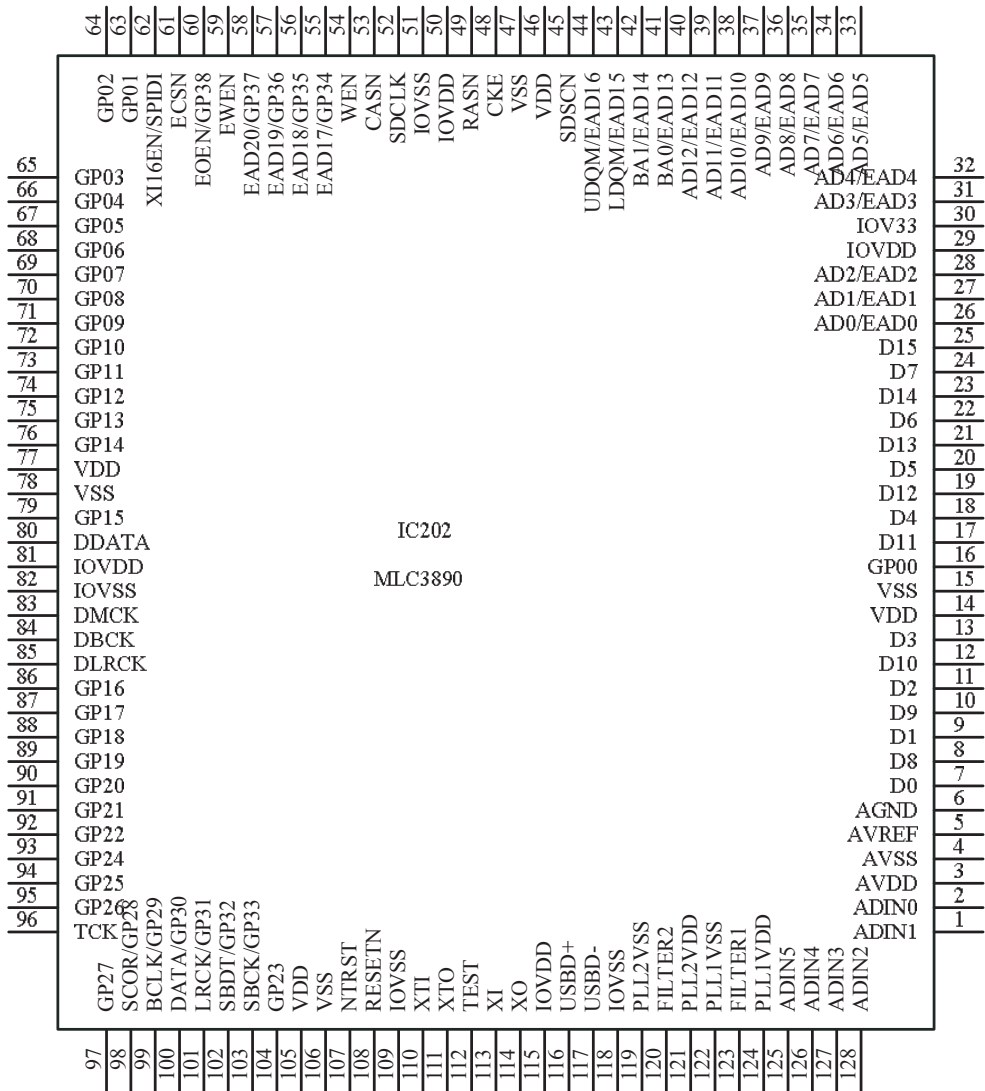
SEMICONDUCTORS

Only major semiconductors are shown, general semiconductors etc. are omitted to list.

The semiconductor which described a detailed drawing in a schematic diagram are omitted to list.

1. IC's

MLC3890 (IC202)

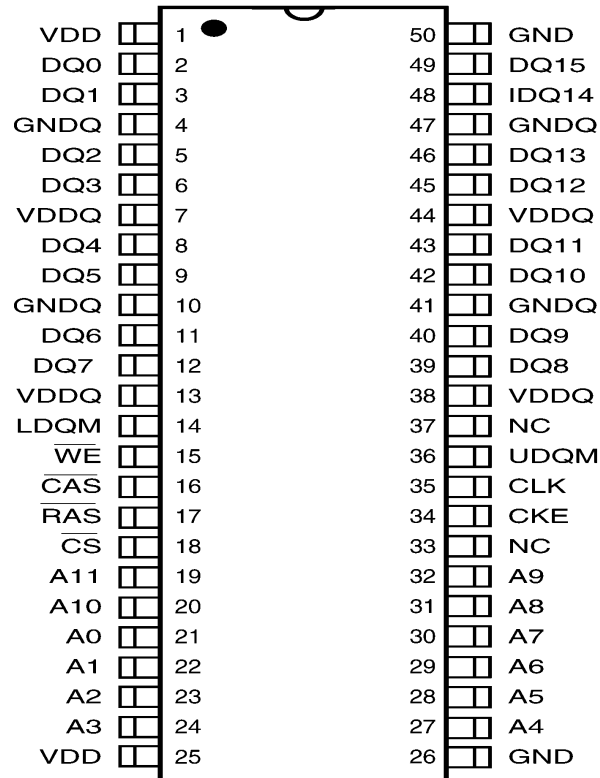


Terminal Function

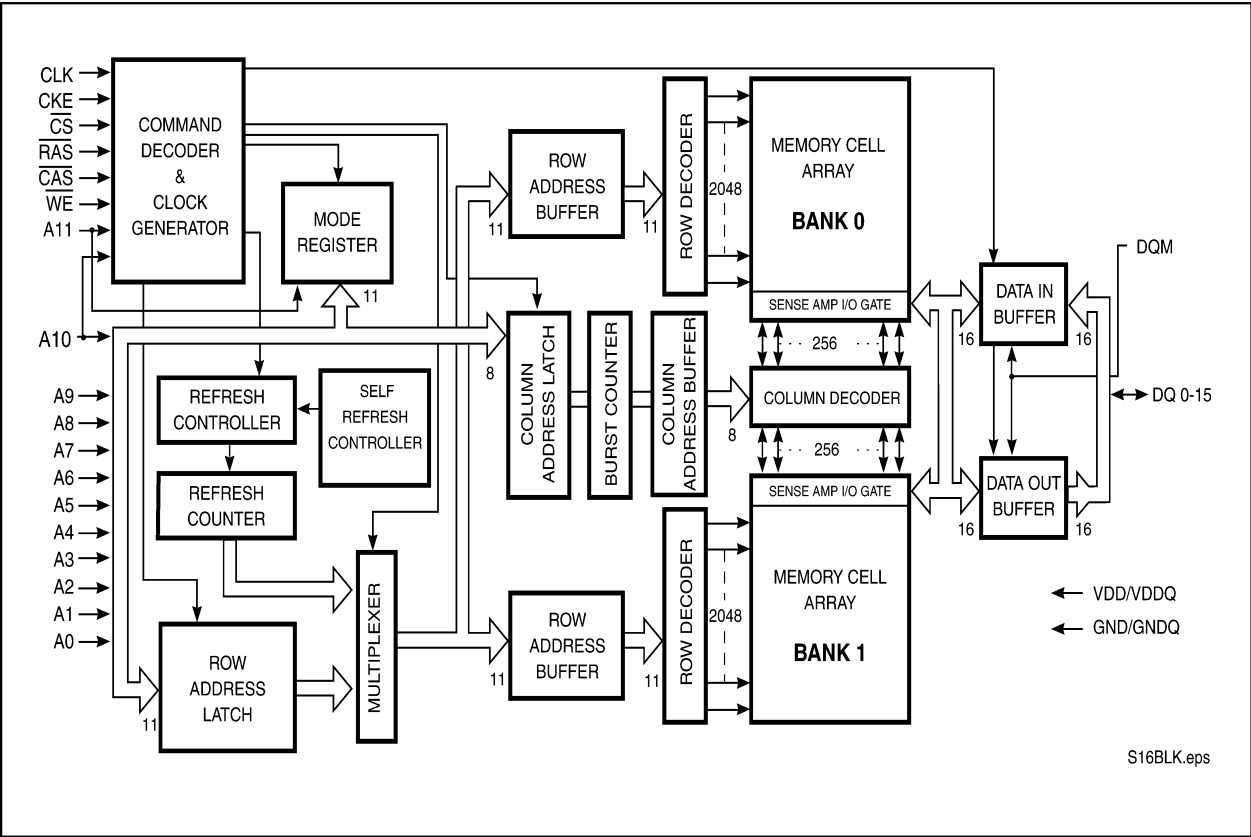
No.	Name	Type	Description	Alternative Function
1	ADIN1	I	ADC analog input[1]	
2	ADIN0	I	ADC analog input[0]	
3	AVDD	I	ADC Analog Power supply (3.3V)	
4	AVSS	P	ADC Analog Ground (3.3V)	
5	AVREF	P	ADC reference Top Voltage (3.3V)	
6	AGND	P	ADC reference bottom Voltage (3.3V)	
7	D0	B8U	External SDRAM data bus [0]	External program data bus [0]
8	D8	B8U	External SDRAM data bus [8]	External program data bus [8]
9	D1	B8U	External SDRAM data bus [1]	External program data bus [1]
10	D9	B8U	External SDRAM data bus [9]	External program data bus [9]
11	D2	B8U	External SDRAM data bus [2]	External program data bus [2]
12	D10	B8U	External SDRAM data bus [10]	External program data bus [10]
13	D3	B8U	External SDRAM data bus [3]	External program data bus [3]
14	VDD	P	Digital power supply (1.8V)	
15	VSS	P	Digital Ground (1.8V)	
16	GP00	BT6SN	General Purpose IO	External Interrupt 0
17	D11	B8U	External SDRAM data bus [11]	External program data bus [11]
18	D4	B8U	External SDRAM data bus [4]	External program data bus [4]
19	D12	B8U	External SDRAM data bus [12]	External program data bus [12]
20	D5	B8U	External SDRAM data bus [5]	External program data bus [5]
21	D13	B8U	External SDRAM data bus [13]	External program data bus [13]
22	D6	B8U	External SDRAM data bus [6]	External program data bus [6]
23	D14	B8U	External SDRAM data bus [14]	External program data bus [14]
24	D7	B8U	External SDRAM data bus [7]	External program data bus [7]
25	D15	B8U	External SDRAM data bus [15]	External program data bus [15]
26	AD0	O8	External SDRAM address bus [0]	External program address bus [0]
27	AD1	O8	External SDRAM address bus [1]	External program address bus [1]
28	AD2	O8	External SDRAM address bus [2]	External program address bus [2]
29	IOVDD	P	I/O Power supply (3.3V)	
30	IOVSS	P	I/O Ground (3.3V)	
31	AD3	O8	External SDRAM address bus [3]	External program address bus [3]
32	AD4	O8	External SDRAM address bus [4]	External program address bus [4]
33	AD5	O8	External SDRAM address bus [5]	External program address bus [5]
34	AD6	O8	External SDRAM address bus [6]	External program address bus [6]
35	AD7	O8	External SDRAM address bus [7]	External program address bus [7]
36	AD8	O8	External SDRAM address bus [8]	External program address bus [8]
37	AD9	O8	External SDRAM address bus [9]	External program address bus [9]
38	AD10	O8	External SDRAM address bus [10]	External program address bus [10]
39	AD11	O8	External SDRAM address bus [11]	External program address bus [11]
40	AD12	O8	External SDRAM address bus [12]	External program address bus [12]
41	BA0	O8	External SDRAM Bank selector 0	External program address bus [13]
42	BA1	O8	External SDRAM Bank selector 1	External program address bus [14]
43	LDQM	O8	SDRAM Lower byte data mask	External program address bus [15]
44	UDQM	O8	SDRAM Upper byte data mask	External program address bus [16]
45	SDCSN	O8	SDRAM Chip select	
46	VDD	P	Digital power supply	
47	VSS	P	Digital Ground	

48	CKE	O8	SDRAM clock enable	
49	RASN	O8	SDRAM RAS	
50	IOVDD	P	I/O Power supply (3.3V)	
51	IOVSS	P	I/O Ground (3.3V)	
52	SDCLK	O8	SDRAM clock	
53	CASN	O8	SDRAM CAS	
54	WEN	O8	SDRAM WEN	
55	EAD17	B8S	External memory address[17]	General Purpose IO 34
56	EAD18	B8S	External memory address[18]	General Purpose IO 35
57	EAD19	B8S	External memory address[19]	General Purpose IO 36
58	EAD20	B8S	External memory address[20]	General Purpose IO 37
59	EWEN	O4	External memory WEN	SPI DO (Serial Data Out)
60	EOEN	O8	External memory OEN	General Purpose IO 38
61	ECSN	O4	External memory CSN	SPI CSN (Chip Select)
62	X16EN	IS		SPI DI (Serial Data In)
63	GP01	B8S	General Purpose IO	SPI CLK
64	GP02	B8S	General Purpose IO	NAND Flash Chip Select 0 When GP02 is used for NAND Flash CS0, the external pull-up resistor (48 k Ω) has to be connected with this pin
65	GP03	B8S	General Purpose IO	NAND Flash Chip Select 1 When GP03 is used for NAND Flash CS1, the external pull-up resistor (48 k Ω) has to be connected with this pin Timer0 Output
66	GP04	B8S	General Purpose IO	NAND Flash CLE (Command Latch Enable)
67	GP05	B8S	General Purpose IO	NAND Flash ALE (Address Latch Enable)
68	GP06	B8S	General Purpose IO	NAND Flash REN (Read Enable)
69	GP07	B8S	General Purpose IO	NAND Flash WEN (Write Enable)
70	GP08	B8S	General Purpose IO	Chip Select 1 When GP08 is used for CS1, the external pull-up resistor (48 k Ω) has to be connected with this pin
71	GP09	B8S	General Purpose IO	UART0 RX Data
72	GP10	B8S	General Purpose IO	
73	GP11	B8S	General Purpose IO	UART0 TX Data
74	GP12	B8S	General Purpose IO	UART1 RX Data
75	GP13	B8S	General Purpose IO	SCI1 RX Data
76	GP14	B8S	General Purpose IO	SCI1 TX Data
77	VDD	P	Digital power supply (1.8V)	
78	VSS	P	Digital Ground (1.8V)	
79	GP15	B8S	General Purpose IO	SCI1 CLK Input/Output
80	DDATA	B4S	Audio serial data for external DAC	
81	IOVDD	P	I/O Power supply (3.3V)	
82	IOVSS	P	I/O Ground (3.3V)	
83	DMCK	O4	Master clock for external DAC	
84	DBCK	O4	Audio serial data Bit clock	
85	DLRCK	B4S	Audio serial data frame clock	
86	GP16	B8S	General Purpose IO	Chip Select 2 When GP16 is used for CS2, the external pull-up resistor (48 k Ω) has to be connected with this pin External Interrupt 1
87	GP17	B8S	General Purpose IO	SCI0 RX Data
88	GP18	B8S	General Purpose IO	SCI0 TX Data
89	GP19	B8S	General Purpose IO	SCI0 CLK Input/Output
90	GP20	B8S	General Purpose IO	IEC-958 (SPDIF) Input

91	GP21	B8S	General Purpose IO	IEC-958(SPDIF) output
92	GP22	B8S	General Purpose IO	Wake-UP When GP22 is used for WAKE-UP signal input pin, the external pull-down resistor (48k Ω) has to be connected with this pin.
93	GP24	B8S	General Purpose IO	JTAG TDI input When GP24 is used for TDI of JTAG, the external pull-up resistor (48k Ω) has to be connected with this pin.
94	GP25	B8S	General Purpose IO	JTAG TDO Output When GP25 is used for TDO of JTAG, the external pull-up resistor (48k Ω) has to be connected with this pin.
95	GP26	B8S	General Purpose IO	JTAG TMS input When GP26 is used for TMS of JTAG, the external pull-up resistor (48k Ω) has to be connected with this pin.
96	TCK	IS	JTAG Clock Input	
97	GP27	B8S	General Purpose IO	External clock (16.9344/33.8688 MHz)
98	GP28	B8S	General Purpose IO	SCOR (Sub-code block Sync from CDDSP)
99	GP29	B8S	General Purpose IO	BCLK (BCLK input from CDDSP)
100	GP30	B8S	General Purpose IO	DATA (Serial bit DATA input from CDDSP)
101	GP31	B8S	General Purpose IO	LRCK (LRCK input from CDDSP)
102	GP32	B8S	General Purpose IO	SBDT
103	GP33	B8S	General Purpose IO	SBCK
104	GP23	B8S	General Purpose IO	
105	VDD	P	Digital power supply (1.8V)	
106	VSS	P	Digital Ground (1.8V)	
107	NTRST	IS	JTAG NRST Output When NTRSR is used for Reset of JTAG, the external pull-up resistor (48k Ω) has to be connected with this pin.	
108	RESETn	ISU	System Reset	
109	IOVSS	P	I/O Ground (3.3V)	
110	XTI	I	RTC Clock Input (32.768 KHz)	
111	XTO	O	RTC Clock Output	
112	TEST	ISD	Test	
113	XI	I	System clock input	
114	XO	O	System clock output	
115	IOVDD	P	I/O Power supply (3.3V)	
116	USBD+	usb	USB D+	
117	USBD-	usb	USB D-	
118	IOVSS	P	I/O Ground (3.3V)	
119	PLL2VSS	P	PLL2 Ground (1.8V)	
120	FILTER2	O	PLL2 capacitor connection	
121	PLL2VDD	P	PLL2 Power supply (1.8V)	
122	PLL1VSS	P	PLL1 Ground (1.8V)	
123	FILTER1	O	PLL1 capacitor connection	
124	PLL1VDD	P	PLL1 Power supply (1.8V)	
125	ADIN5	I	ADC analog input[5]	
126	ADIN4	I	ADC analog input[4]	
127	ADIN3	I	ADC analog input[3]	
128	ADIN2	I	ADC analog input[2]	



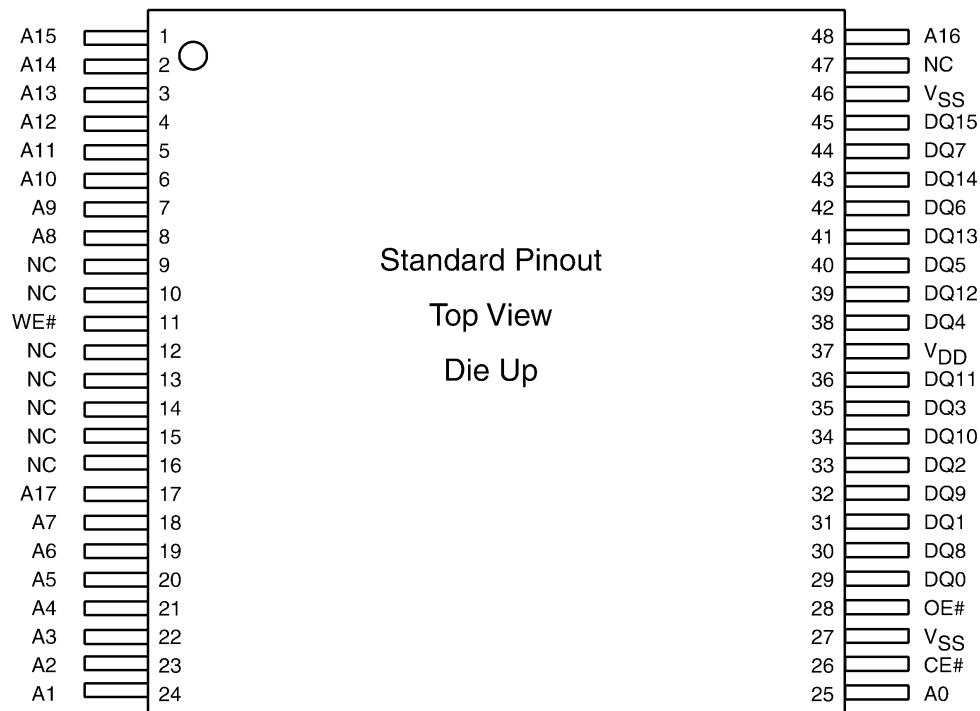
FUNCTIONAL BLOCK DIAGRAM



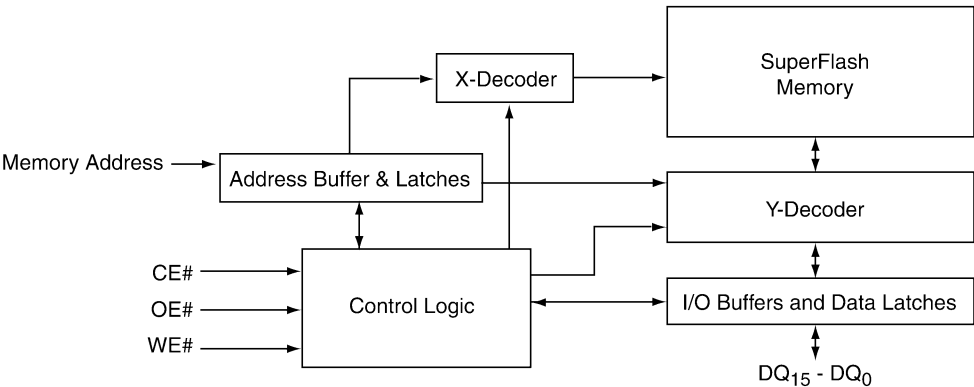
PIN FUNCTIONS

Pin No.	Symbol	Type	Function (In Detail)
20 to 24 27 to 32	A0-A10	Input Pin	A0 to A10 are address inputs. A0-A10 are used as row address inputs during active command input and A0-A7 as column address inputs during read or write command input. A10 is also used to determine the precharge mode during other commands. If A10 is LOW during precharge command, the bank selected by A11 is precharged, but if A10 is HIGH, both banks will be precharged. When A10 is HIGH in read or write command cycle, the precharge starts automatically after the burst access. These signals become part of the OP CODE during mode register set command input.
19	A11	Input Pin	A11 is the bank selection signal. When A11 is LOW, bank 0 is selected and when high, bank 1 is selected. This signal becomes part of the OP CODE during mode register set command input.
16	$\overline{\text{CAS}}$	Input Pin	$\overline{\text{CAS}}$, in conjunction with the $\overline{\text{RAS}}$ and $\overline{\text{WE}}$, forms the device command. See the "Command Truth Table" item for details on device commands.
34	CKE	Input Pin	The CKE input determines whether the CLK input is enabled within the device. When is CKE HIGH, the next rising edge of the CLK signal will be valid, and when LOW, invalid. When CKE is LOW, the device will be in either the power-down mode, the clock suspend mode, or the self refresh mode. The CKE is an asynchronous input.
35	CLK	Input Pin	CLK is the master clock input for this device. Except for CKE, all inputs to this device are acquired in synchronization with the rising edge of this pin.
18	$\overline{\text{CS}}$	Input Pin	The $\overline{\text{CS}}$ input determines whether command input is enabled within the device. Command input is enabled when $\overline{\text{CS}}$ is LOW, and disabled with $\overline{\text{CS}}$ is HIGH. The device remains in the previous state when $\overline{\text{CS}}$ is HIGH.
2, 3, 5, 6, 8, 9, 11 12, 39, 40, 42, 43, 45, 46, 48, 49	DQ0 to DQ15	DQ Pin	DQ0 to DQ15 are DQ pins. DQ through these pins can be controlled in byte units using the LDQM and UDQM pins.
14, 36	LDQM, UDQM	Input Pin	LDQM and UDQM control the lower and upper bytes of the DQ buffers. In read mode, LDQM and UDQM control the output buffer. When LDQM or UDQM is LOW, the corresponding buffer byte is enabled, and when HIGH, disabled. The outputs go to the HIGH impedance state when LDQM/UDQM is HIGH. This function corresponds to $\overline{\text{OE}}$ in conventional DRAMs. In write mode, LDQM and UDQM control the input buffer. When LDQM or UDQM is LOW, the corresponding buffer byte is enabled, and data can be written to the device. When LDQM or UDQM is HIGH, input data is masked and cannot be written to the device.
17	$\overline{\text{RAS}}$	Input Pin	$\overline{\text{RAS}}$, in conjunction with $\overline{\text{CAS}}$ and $\overline{\text{WE}}$, forms the device command. See the "Command Truth Table" item for details on device commands.
15	$\overline{\text{WE}}$	Input Pin	$\overline{\text{WE}}$, in conjunction with $\overline{\text{RAS}}$ and $\overline{\text{CAS}}$, forms the device command. See the "Command Truth Table" item for details on device commands.
7, 13, 38, 44	VDDQ	Power Supply Pin	VDDQ is the output buffer power supply.
1, 25	VDD	Power Supply Pin	VDD is the device internal power supply.
4, 10, 41, 47	GNDQ	Power Supply Pin	GNDQ is the output buffer ground.
26, 50	GND	Power Supply Pin	GND is the device internal ground.

SST39LF/VF400A (IC204)



BLOCK DIAGRAM



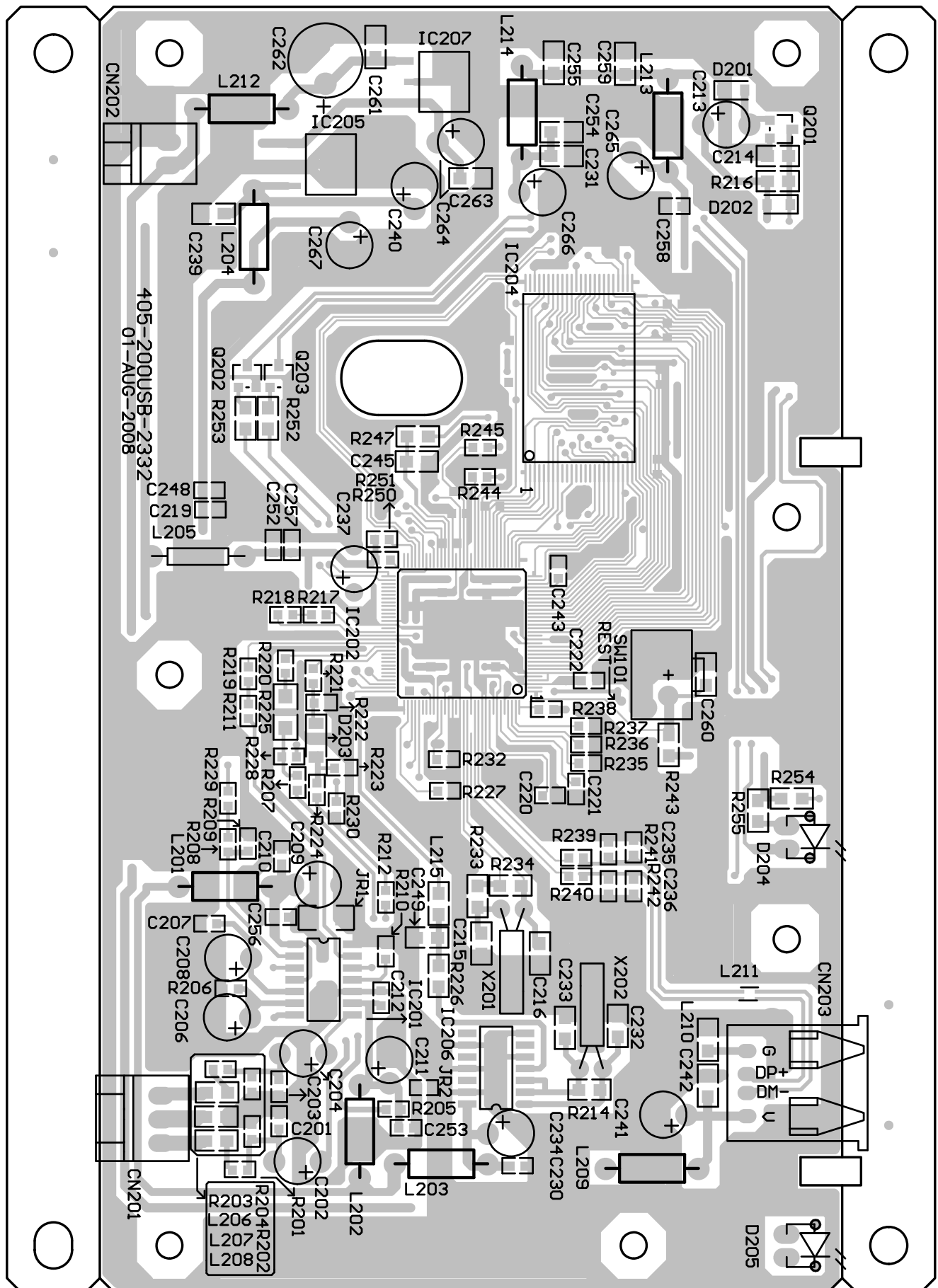
PIN FUNCTION

Symbol	Pin Name	Functions
A _{MS} ¹ -A ₀	Address Inputs	To provide memory addresses. During Sector-Erase A _{MS} -A ₁₁ address lines will select the sector. During Block-Erase A _{MS} -A ₁₅ address lines will select the block.
DQ ₁₅ -DQ ₀	Data Input/output	To output data during Read cycles and receive input data during Write cycles. Data is internally latched during a Write cycle. The outputs are in tri-state when OE# or CE# is high.
CE#	Chip Enable	To activate the device when CE# is low.
OE#	Output Enable	To gate the data output buffers.
WE#	Write Enable	To control the Write operations.
V _{DD}	Power Supply	To provide power supply voltage: 3.0-3.6V for SST39LF200A/400A/800A 2.7-3.6V for SST39VF200A/400A/800A
V _{SS}	Ground	
NC	No Connection	Unconnected pins.

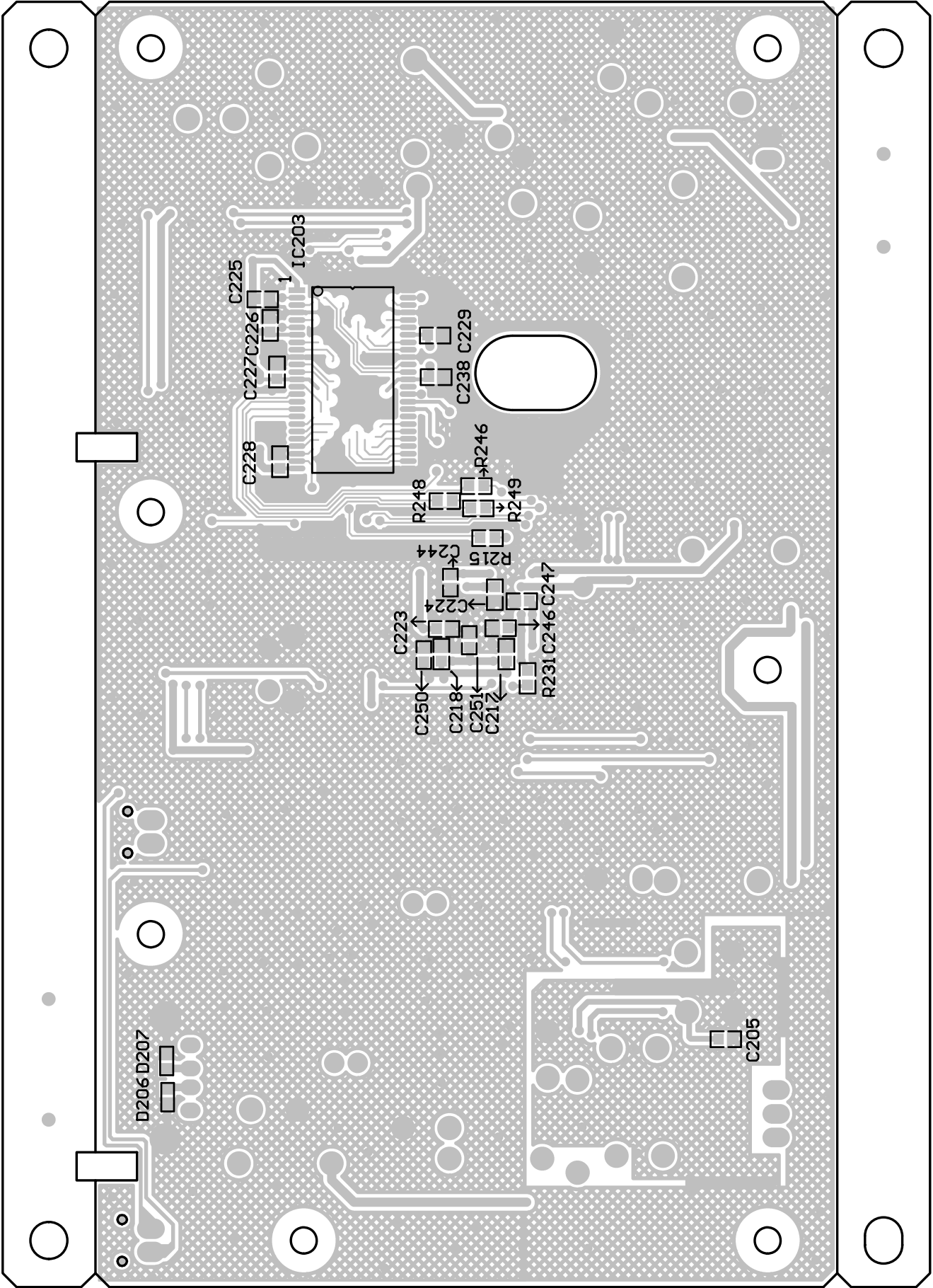
1. A_{MS} = Most significant address
A_{MS} = A₁₆ for SST39LF/VF200A, A₁₇ for SST39LF/VF400A, and A₁₈ for SST39LF/VF800A

PRINTED WIRING BOARDS

REC P.W.B. UNIT (1/2)



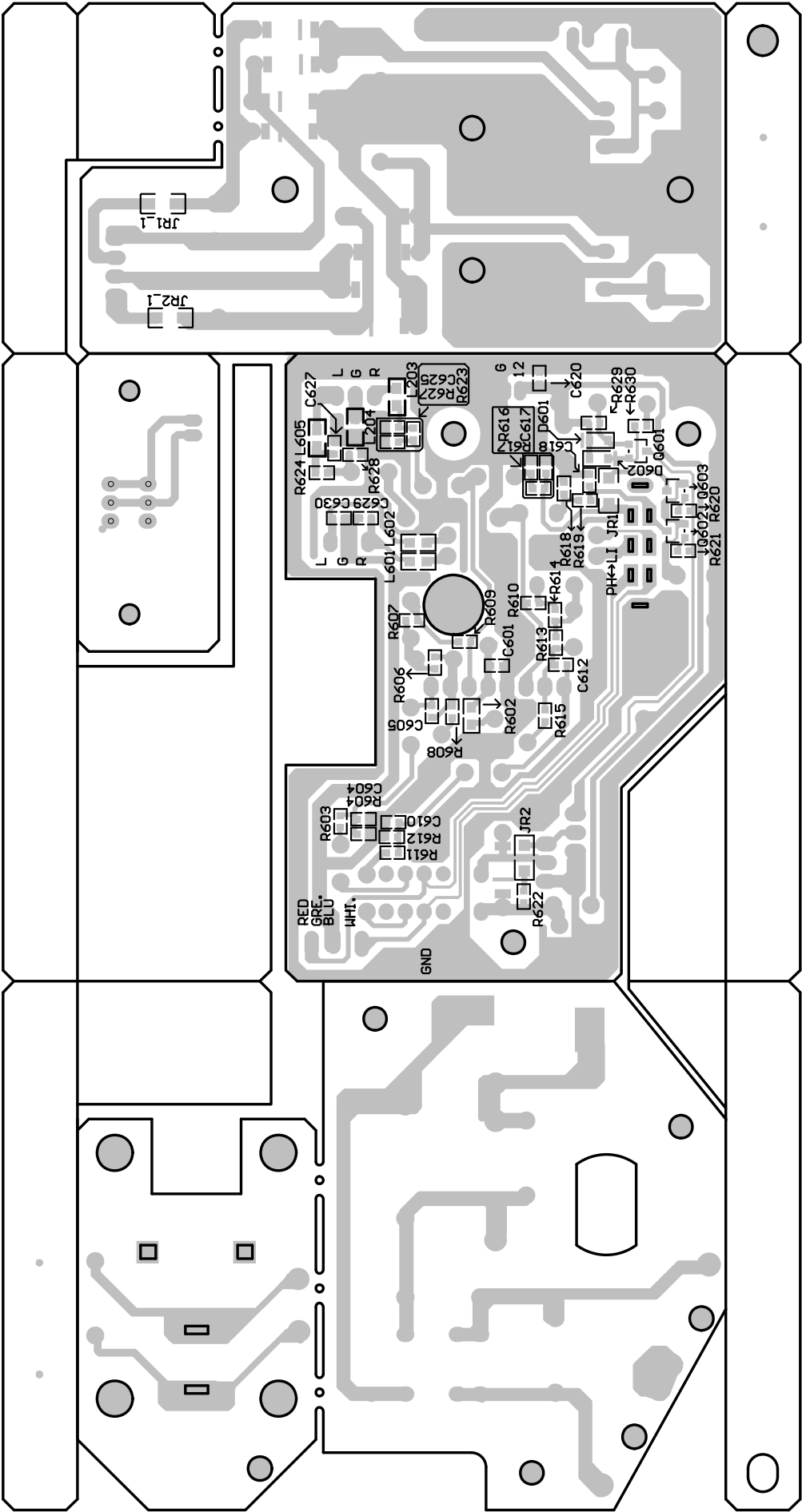
COMPONENT SIDE



FOIL SIDE

DP-200USB

PH/LI/SPEED/AC SW/AC/DC P.W.B. UNIT (2/2)



FOIL SIDE

NOTE FOR PARTS LIST

- Parts for which "nsp" is indicated on this table cannot be supplied.
- When ordering of part, clearly indicate "1" and "I" (i) to avoid mis-supplying.
- Ordering part without stating its part number can not be supplied.
- Part indicated with the mark "★" is not illustrated in the exploded view.
- Not including General-purpose Carbon Film Resistor in the P.W.Board parts list. (Refer to the Schematic Diagram for those parts.)
- Not including General-purpose Carbon Chip Resistor in the P.W.Board parts list. (Refer to the Schematic Diagram for those parts.)

WARNING:

Parts marked with this symbol \triangle have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

● Resistors

Ex.:	RN	14K	2E	182	G	FR
	Type	Shape and performance	Power	Resistance	Allowable error	Others
	↓	↓	↓	↓	↓	↓
RD : Carbon	2B : 1/8 W	F : $\pm 1\%$	P : Pulse-resistant type			
RC : Composition	2E : 1/4 W	G : $\pm 2\%$	NL : Low noise type			
RS : Metal oxide film	2H : 1/2 W	J : $\pm 5\%$	NB : Non-burning type			
RW : winding	3A : 1 W	K : $\pm 10\%$	FR : Fuse-resistor			
RN : Metal film	3D : 2 W	M : $\pm 20\%$	F : Lead wire forming			
RK : Metal mixture	3F : 3 W					
	3H : 5 W					

* Resistance

$\frac{1}{\uparrow} \frac{8}{\uparrow} \frac{2}{\uparrow} \Rightarrow 1800\text{ohm}=1.8\text{kohm}$
 Indicates number of zeros after effective number.
 2-digit effective number.

$\frac{1}{\uparrow} \frac{R}{\uparrow} \frac{2}{\uparrow} \Rightarrow 1.2\text{ohm}$
 1-digit effective number.
 2-digit effective number, decimal point indicated by R.
 : Units: ohm

● Capacitors

Ex.:	CE	04W	1H	3R2	M	BP
	Type	Shape and performance	Dielectric strength	Capacity	Allowable error	Others
	↓	↓	↓	↓	↓	↓
CE : Aluminum foil electrolytic	0J : 6.3 V	F : $\pm 1\%$	HS : High stability type			
CA : Aluminium solid electrolytic	1A : 10 V	G : $\pm 2\%$	BP : Non-polar type			
CS : Tantalum electrolytic	1C : 16 V	J : $\pm 5\%$	HR : Ripple-resistant type			
CQ : Film	1E : 25 V	K : $\pm 10\%$	DL : For charge and discharge			
CK : Ceramic	1V : 35 V	M : $\pm 20\%$	HF : For assuring high frequency			
CC : Ceramic	1H : 50 V	Z : $\pm 80\%$	U : UL part			
CP : Oil	2A : 100 V	- : -20%	C : CSA part			
CM : Mica	2B : 125 V	P : +100%	W : UL-CSA part			
CF : Metallized	2C : 160 V	C : $\pm 0.25\text{pF}$	F : Lead wire forming			
CH : Metallized	2D : 200 V	D : $\pm 0.5\text{pF}$				
	2E : 250 V	= : Others				
	2H : 500 V					
	2J : 630 V					

* Capacity (electrolyte only)

$\frac{2}{\uparrow} \frac{2}{\uparrow} \frac{2}{\uparrow} \Rightarrow 2200 \mu\text{F}$
 Indicates number of zeros after effective number.
 2-digit effective number.
 • Units: μF .

$\frac{2}{\uparrow} \frac{R}{\uparrow} \frac{2}{\uparrow} \Rightarrow 2.2 \mu\text{F}$
 1-digit effective number.
 2-digit effective number, decimal point indicated by R
 • Units: μF .

* Capacity (except electrolyte)

$\frac{2}{\uparrow} \frac{2}{\uparrow} \frac{2}{\uparrow} \Rightarrow 2200\text{pF}=0.0022 \mu\text{F}$
 Indicates number of zeros after effective number.
 (More than 2)
 2-digit effective number.
 • Units:pF

$\frac{2}{\uparrow} \frac{2}{\uparrow} \frac{1}{\uparrow} \Rightarrow 220\text{pF}$
 Indicates number of zeros after effective number.
 (0 or 1)
 2-digit effective number.
 • Units:pF

- When the dielectric strength is indicated in AC,"AC" is included after the dielectric strength value.

PARTS LIST OF P.W.B. UNIT

- * Parts for which "nsp" is indicated on this table cannot be supplied.
- * P.W.B. ASS'Y for which "nsp" is indicated on this table cannot be supplied. When repairing the P.W.B. ASS'Y, check the board parts table and order replacement parts.
- * The parts listed below are for maintenance only, might differ from the parts used in the unit in appearances or dimensions.

Note:The symbols in the column "Remarks" indicate the following destinations.
E3 : U.S.A. & Canada model E2 : Europe model

REC PCB ASS'Y

Ref No.	Part No.	Part Name	Remarks	Q'ty	New
SEMICONDUCTORS GROUP					
IC201	941239000410S	IC(CE2632,SOP-14)	417-BJR100-830	1	*
IC202	941239000450S	IC(MLC3890,TQFP-128)	417-BJR100-831	1	*
IC203	941239000460S	IC(1S42S16100E-7TL,TSOP-50,ISSI)	417-BJR100-832	1	*
IC204	941243000350D	IC ASS'Y (SST39LF/VF400A,TSOP-48)	704-BJR100-7493	1	*
IC205	00D9410049209	IC(BA18BC0FP-E2,3PIN,TO-252-3,SMD)	417-MCDS4-737	1	*
IC206	00D9580048800	IC(TC74HCU04AFN/TC74HCU04FAN(ELP.M)SOP-14)	417-DJ150-419	1	*
IC207	00D9587058204	IC(BA033FP-E2,TO-252-3)	417-CTB200-500	1	*
IC208	00D2623082924	IC(BD4730G-TR,SSOP-5)	417-200USB-931	1	*
Q202,Q203	00D9587057409	CHIP TRANSISTOR(2SC2412KT146R)	416-CDN88-051	2	
D201	941209000470S	ESD DIODE(RSB6.8S 150mW,6.8V EMD2 ROHM)	414-DJ1100G-207	4	
D202	00D9410046901	SWITCHING DIODE(1SS355,UMD2,SMD,TAPING)	414-CD1000-075	1	
D203	00D9587056701	DIODE(RB160M-30,SOD-123)	414-900-208	1	
D204	00D9587051706	LED (6224-10ID-A,RED)	410-CD6000-122	1	*
D204	nsp	LED HOLDER(LED-3Y,BLACK,H=4.0mm)	504-BJR100-224	2	*
D205	00D9580041807	LED (GREEN)	410-CD6000-124	1	*
D205	nsp	LED HOLDER(LED-3Y,BLACK,H=4.0mm)	504-BJR100-224	2	*
D206-D208	941209000470S	ESD DIODE(RSB6.8S 150mW,6.8V EMD2 ROHM)	414-DJ1100G-207	4	
NOTE : When update Firmware, please confirm a last version in SDI. Use the service board after updating it.					
RESISTOR GROUP					
R201	nsp	CHIP RESISTOR(10K OHM,1/10W,0603,J,TP ,50V)	412-CDVD2001-534	3	
R202	nsp	CHIP RESISTOR(15K OHM,1/10W,0603,J,TP ,50V)	412-007USB-687	4	
R203	nsp	CHIP RESISTOR(10K OHM,1/10W,0603,J,TP ,50V)	412-CDVD2001-534	3	
R204	nsp	CHIP RESISTOR(15K OHM,1/10W,0603,J,TP ,50V)	412-007USB-687	4	
R205-R208	nsp	CHIP RESISTOR(470 OHM,1/10W, 0603,J,TP,50V)	412-CDVD2001-545	6	
R209	nsp	CHIP RESISTOR(4.7K OHM,1/10W, 0603,J,TP,50V)	412-CDVD2001-523	2	
R210	nsp	CHIP RESISTOR(0 OHM,1/10W, 0603,J,TP,50V)	412-CDVD2001-552	5	
R211,R212	nsp	CHIP RESISTOR(470 OHM,1/10W, 0603,J,TP,50V)	412-CDVD2001-545	6	
R214	nsp	CHIP RESISTOR(1M OHM,1/8W, 0805,J,TP 150V)	412-DV330-308	2	
R216	nsp	CHIP RESISTOR(10K OHM,1/10W,0603,J,TP ,50V)	412-CDVD2001-534	3	
R217	nsp	CHIP RESISTOR(100 OHM,1/10W, 0603,J,TP,50V)	412-CDVD2001-530	8	
R218	nsp	CHIP RESISTOR(1K OHM,1/10W, 0603,J,TP,50V)	412-CDVD2001-540	4	
R219-R221	nsp	CHIP RESISTOR(100 OHM,1/10W, 0603,J,TP,50V)	412-CDVD2001-530	8	
R222	nsp	CHIP RESISTOR(4.7K OHM,1/10W, 0603,J,TP,50V)	412-CDVD2001-523	2	
R223	nsp	CHIP RESISTOR(1K OHM,1/10W, 0603,J,TP,50V)	412-CDVD2001-540	4	
R224	nsp	CHIP RESISTOR(0 OHM,1/10W, 0603,J,TP,50V)	412-CDVD2001-552	5	
R225	nsp	CHIP RESISTOR(0 OHM,1/8W,1206,J,TP ,150V)	412-DJ3000-414	2	
R226	nsp	CHIP RESISTOR(100 OHM,1/8W,J,0805,150V)	412-DV330-304	1	
R227-R230	nsp	CHIP RESISTOR(100 OHM,1/10W, 0603,J,TP,50V)	412-CDVD2001-530	8	
R231	nsp	CHIP RESISTOR(47K OHM,1/10W,0603,J,TP ,50V)	412-CDVD2001-532	2	
R232	nsp	CHIP RESISTOR(100K OHM,1/10W,0603 ,J,TP ,50V)	412-CDVD2001-537	1	
R233	nsp	CHIP RESISTOR(220 OHM,1/8W,0805,J,TP 150V)	412-DV330-333	2	
R234	nsp	CHIP RESISTOR(1M OHM,1/8W, 0805,J,TP 150V)	412-DV330-308	2	
R235-R237	nsp	CHIP RESISTOR(0 OHM,1/10W, 0603,J,TP,50V)	412-CDVD2001-552	5	
R238	nsp	CHIP RESISTOR(47K OHM,1/10W,0603,J,TP ,50V)	412-CDVD2001-532	2	
R239,R240	nsp	CHIP RESISTOR(39 OHM,1/10W,0603,J,TP ,50V)	412-DCM280-755	2	
R241,R242	nsp	CHIP RESISTOR(15K OHM,1/10W,0603,J,TP ,50V)	412-007USB-687	4	
R243	nsp	CHIP RESISTOR(10K OHM,1/8W,0805,J,TP 150V)	412-DV330-306	3	
R244-R246	nsp	CHIP RESISTOR(220 OHM,1/10W,0603 ,J,TP 50V)	412-CDVD2001-521	6	
R247	nsp	CHIP RESISTOR(220 OHM,1/8W,0805,J,TP 150V)	412-DV330-333	2	
R248,R249	nsp	CHIP RESISTOR(220 OHM,1/10W,0603 ,J,TP 50V)	412-CDVD2001-521	6	
R250,R251	nsp	CHIP RESISTOR(1K OHM,1/10W, 0603,J,TP,50V)	412-CDVD2001-540	4	
R252,R253	nsp	CHIP RESISTOR(10K OHM,1/8W,0805,J,TP 150V)	412-DV330-306	3	
R255,R254	nsp	CHIP RESISTOR(1K OHM,1/8W, 0805,J,TP 150V)	412-DV330-305	2	
R256	nsp	CHIP RESISTOR(220 OHM,1/10W,0603 ,J,TP 50V)	412-CDVD2001-521	6	

Ref No.	Part No.	Part Name	Remarks	Q'ty	New
CAPACITORS GROUP					
C201	nsp	CHIP CAPACITOR(100pF/50V,J,0603 TYPE,NPO)	413-DCM280-767	4	
C202	00D9587056206	ELEC. CAPACITOR(1uF/50V,M,105 ,TAPING 4*7,MINI)	413-SPPW3-234	3	
C203	nsp	CHIP CAPACITOR(100pF/50V,J,0603 TYPE,NPO)	413-DCM280-767	4	
C204	00D9587056206	ELEC. CAPACITOR(1uF/50V,M,105 ,TAPING 4*7,MINI)	413-SPPW3-234	3	
C205	nsp	CHIP CAPACITOR(0.1uF/50V,Z,0603 TYPE,Y5V)	413-DCM280-773	26	
C206	00D9587056400	ELEC. CAPACITOR(22uF/16V,M,105 ,TAPING 4*7,MINI)	413-SPPW3-236	2	
C207	nsp	CHIP CAPACITOR(0.1uF/50V,Z,0603 TYPE,Y5V)	413-DCM280-773	26	
C208	00D9587056400	ELEC. CAPACITOR(22uF/16V,M,105 ,TAPING 4*7,MINI)	413-SPPW3-236	2	
C209	00D9587054907	ELEC. CAPACITOR(100uF/10V,M,105 ,TAPING 5*7,MINI)	413-HMA2200-5017	10	
C210	nsp	CHIP CAPACITOR(0.1uF/50V,Z,0603 TYPE,Y5V)	413-DCM280-773	26	
C211	00D9587054907	ELEC. CAPACITOR(100uF/10V,M,105 ,TAPING 5*7,MINI)	413-HMA2200-5017	10	
C212	nsp	CHIP CAPACITOR(0.1uF/50V,Z,0603 TYPE,Y5V)	413-DCM280-773	26	
C213	00D9587056206	ELEC. CAPACITOR(1uF/50V,M,105 ,TAPING 4*7,MINI)	413-SPPW3-234	3	
C214	nsp	CHIP CAPACITOR(0.1uF/50V,Z,0603 TYPE,Y5V)	413-DCM280-773	26	
C215,C216	nsp	CHIP CAPACITOR(22pF/50V,J,0805 TYPE,NPO)	413-CDN88-080	4	
C217,C218	nsp	CHIP CAPACITOR(0.1uF/50V,Z,0603 TYPE,Y5V)	413-DCM280-773	26	
C219	nsp	CHIP CAPACITOR(0.01uF/50V,K,0603 TYPE,X7R)	413-DCM280-771	5	
C220,C221	nsp	CHIP CAPACITOR(1200pF/50V,K,0603 TAPING,X7R)	413-ME2-1049	2	
C222-C230	nsp	CHIP CAPACITOR(0.1uF/50V,Z,0603 TYPE,Y5V)	413-DCM280-773	26	
C231	nsp	CHIP CAPACITOR(0.1uF/ 50V,Z,0805 TYPE,Y5V)	413-DV330-313	6	
C232,C233	nsp	CHIP CAPACITOR(22pF/50V,J,0805 TYPE,NPO)	413-CDN88-080	4	
C234	00D9587054907	ELEC. CAPACITOR(100uF/10V,M,105 ,TAPING 5*7,MINI)	413-HMA2200-5017	10	
C235,C236	nsp	CHIP CAPACITOR(100pF/50V,J,0603 TYPE,NPO)	413-DCM280-767	4	
C237	00D9587054907	ELEC. CAPACITOR(100uF/10V,M,105 ,TAPING 5*7,MINI)	413-HMA2200-5017	10	
C238	nsp	CHIP CAPACITOR(0.1uF/50V,Z,0603 TYPE,Y5V)	413-DCM280-773	26	
C239	nsp	CHIP CAPACITOR(0.1uF/ 50V,Z,0805 TYPE,Y5V)	413-DV330-313	6	
C240	00D9587054907	ELEC. CAPACITOR(100uF/10V,M,105 ,TAPING 5*7,MINI)	413-HMA2200-5017	10	
C241	941134000530S	ELEC. CAPACITOR(470uF/10V,M, 105 ,TAPING 8*12)	413-HT8015-169	1	
C242	nsp	CHIP CAPACITOR(0.1uF/ 50V,Z,0805 TYPE,Y5V)	413-DV330-313	6	
C243,C244	nsp	CHIP CAPACITOR(0.1uF/50V,Z,0603 TYPE,Y5V)	413-DCM280-773	26	
C246-C248	nsp	CHIP CAPACITOR(0.1uF/50V,Z,0603 TYPE,Y5V)	413-DCM280-773	26	
C250-C252	nsp	CHIP CAPACITOR(0.1uF/50V,Z,0603 TYPE,Y5V)	413-DCM280-773	26	
C253	nsp	CHIP CAPACITOR(0.01uF/50V,K,0603 TYPE,X7R)	413-DCM280-771	5	
C254,C255	nsp	CHIP CAPACITOR(0.01uF/50V,K,0805 TYPE,X7R)	413-DV330-312	3	
C256-C258	nsp	CHIP CAPACITOR(0.01uF/50V,K,0603 TYPE,X7R)	413-DCM280-771	5	
C259	nsp	CHIP CAPACITOR(0.01uF/50V,K,0805 TYPE,X7R)	413-DV330-312	3	
C260,C261	nsp	CHIP CAPACITOR(0.1uF/ 50V,Z,0805 TYPE,Y5V)	413-DV330-313	6	
C262	00D9587032709	ELEC. CAPACITOR(220uF/10V,M,105 ,TAPING 6*7,MINI)	413-HT801K-192	1	
C263	nsp	CHIP CAPACITOR(0.1uF/ 50V,Z,0805 TYPE,Y5V)	413-DV330-313	6	
C264-C268	00D9587054907	ELEC. CAPACITOR(100uF/10V,M,105 ,TAPING 5*7,MINI)	413-HMA2200-5017	10	
C269	nsp	CHIP CAPACITOR(0.1uF/50V,Z,0603 TYPE,Y5V)	413-DCM280-773	26	
OTHER PARTS GROUP					
CN201	nsp	3P SOCKET(CKM2501WR-3P 90°WHITE)	404-KMD3500-609A	1	
CN202	nsp	2P 2.0 CONNECTOR WIRE(AMW1007#26,L=250mm,+/-)	404-HPR200-3055	1	
CN203	941643000340S	USB-A JACK(USB-A(F) DIP)	420-D1PRO-262	1	
JR1	nsp	CHIP RESISTOR(0 OHM,1/8W,1206,J,TP ,150V)	412-DJ3000-414	2	
L201-L205	00D9587057108	BEAD CORE(TB36-863445NP T-26mm)	415-HV3500K-090	9	
L206-L208	90M-FC900430R	CHIP BEAD(SBK201209T-601Y-S)	415-1300-240	4	
L209	00D9587057108	BEAD CORE(TB36-863445NP T-26mm)	415-HV3500K-090	9	
L210	941115000480S	INDUCTOR(MPZ2012S101AT)	415-FU801-316	1	
L211	941119000490S	CHIP BEAD(ACM2012-900-2P-T)	415-FU800-305	1	
L212-L214	00D9587057108	BEAD CORE(TB36-863445NP T-26mm)	415-HV3500K-090	9	
L215	90M-FC900430R	CHIP BEAD(SBK201209T-601Y-S)	415-1300-240	4	
SW101	941662000330S	TACT SW	403-200USB-337	1	*
X201	00D9580015707	CRYSTAL(12MHz)	427-KMD3500-047	1	*
X202	00D9580015600	CRYSTAL(16.9344MHz)	427-KC710-019	1	*

PH/LI PCB ASS'Y

Ref No.	Part No.	Part Name	Remarks	Q'ty	New
SEMICONDUCTORS GROUP					
IC601	941239000500S	IC(LA3161)		417-F606-720	1 *
Q601	90M-BA001610R	CHIP TRANSISTOR(DTA124TKAT146)		416-HDJ9700-210	1
Q602,Q603	00D9410046406	TRANSISTOR(2SC4695)		416-DAIA-273	2
Q604	00D9580040400	DIGITAL TRANSISTOR(DTC124TS TAPING OR 2SC4120)		416-1330-020	1
Q605	00D9587057603	TRANSISTORS(2SC3330U-AC)		416-DJ1900-023	1
D601,D602	00D9410046901	SWITCHING DIODE(1SS355,UMD2,SMD,TAPING)		414-CD1000-075	2
D603	941209000730S	DIODE(1N4001,1A/50V,TAPING 52mm)		414-DJ2500-110	1
D604	00D2760761904	ZENER DIODE(MTZJ9.1-B,1/2W,T-77)		414-3113-007	1
RESISTOR GROUP					
R602	nsp	CHIP RESISTOR(100 OHM,1/8W,J,0805,150V)		412-DV330-304	1
R603	nsp	CHIP RESISTOR(470 OHM,1/10W, 0603,J,TP,50V)		412-CDVD2001-545	3
R604	nsp	CHIP RESISTOR(47K OHM,1/10W,0603,J,TP,50V)		412-CDVD2001-532	2
R606	nsp	CHIP RESISTOR(150K OHM,1/10W,0603,J,TP,50V)		412-007USB-688	2
R607	nsp	CHIP RESISTOR(9.1K OHM,1/10W,0603,J,TP,50V)		412-CDVD2001-543	2
R608	nsp	CHIP RESISTOR(200 OHM,1/10W,J,TP 0603,50V)		412-MH2-1138	2
R609,R610	nsp	CHIP RESISTOR(680 OHM,1/10W,J,TP,50V)		412-900-1060	2
R611	nsp	CHIP RESISTOR(470 OHM,1/10W, 0603,J,TP,50V)		412-CDVD2001-545	3
R612	nsp	CHIP RESISTOR(47K OHM,1/10W,0603,J,TP,50V)		412-CDVD2001-532	2
R613	nsp	CHIP RESISTOR(150K OHM,1/10W,0603,J,TP,50V)		412-007USB-688	2
R614	nsp	CHIP RESISTOR(9.1K OHM,1/10W,0603,J,TP,50V)		412-CDVD2001-543	2
R615	nsp	CHIP RESISTOR(200 OHM,1/10W,J,TP 0603,50V)		412-MH2-1138	2
R616	nsp	CHIP RESISTOR(100K OHM,1/10W,0603,J,TP,50V)		412-CDVD2001-537	4
R617	nsp	CHIP RESISTOR(1K OHM,1/10W, 0603,J,TP,50V)		412-CDVD2001-540	4
R618	nsp	CHIP RESISTOR(100K OHM,1/10W,0603,J,TP,50V)		412-CDVD2001-537	4
R619	nsp	CHIP RESISTOR(1K OHM,1/10W, 0603,J,TP,50V)		412-CDVD2001-540	4
R620,R621	nsp	CHIP RESISTOR(6.2KOHM,1/10W,F,TP 0603,50V)		412-900-985	2
R622	nsp	CHIP RESISTOR(10K OHM,1/10W,0603,J,TP,50V)		412-CDVD2001-534	1
R623,R624	nsp	CHIP RESISTOR(1K OHM,1/10W, 0603,J,TP,50V)		412-CDVD2001-540	4
R625	nsp	CHIP RESISTOR(390 OHM,1/4W,J,TP 1206,150V)		412-200USB-1341	1
R627,R628	nsp	CHIP RESISTOR(100K OHM,1/10W,0603,J,TP,50V)		412-CDVD2001-537	4
R629	nsp	CHIP RESISTOR(220K OHM,1/10W, 0603,J,TP,50V)		412-007USB-678	1
R630	nsp	CHIP RESISTOR(470 OHM,1/10W, 0603,J,TP,50V)		412-CDVD2001-545	3
CAPACITORS GROUP					
C601	nsp	CHIP CAPACITOR(0.1uF/50V,Z,0603 TYPE,Y5V)		413-DCM280-773	2
C601	nsp	CHIP CAPACITOR(0.1uF/50V,Z,0603 TYPE,Y5V)		413-DCM280-773	2
C602	00D9587032806	ELEC. CAPACITOR(100uF/16V,M,105,TAPING 6.3*7,MINI)		413-HT801K-193	4
C603	00D9587055304	ELEC. CAPACITOR(4.7uF/50V,M,105,TAPING 4*7,MINI)		413-HT801K-191	2
C604	nsp	CHIP CAPACITOR(100pF/50V,J,0603 TYPE,NPO)		413-DCM280-767	4
C605	nsp	CHIP CAPACITOR(470pF/50V,J,0603 TYPE,NPO)		413-007USB-786	2
C606	00D9587032301	POLYESTER CAPACITOR(0.027uF/50V,J,TAPING)		413-HT8015-161	2
C607	00D9587032204	POLYESTER CAPACITOR(0.0082uF/50V,J,TAPING)		413-HT8015-160	2
C608	941134000520S	E.C.(4.7uF/25V,MINI)		413-SMX701-712	4
C609	nsp	ELEC. CAPACITOR(33uF/16V,M,105,TAPING 5*7,MINI)		413-HDJ201-350	2
C610	nsp	CHIP CAPACITOR(100pF/50V,J,0603 TYPE,NPO)		413-DCM280-767	4
C611	00D9587055304	ELEC. CAPACITOR(4.7uF/50V,M,105,TAPING 4*7,MINI)		413-HT801K-191	2
C612	nsp	CHIP CAPACITOR(470pF/50V,J,0603 TYPE,NPO)		413-007USB-786	2
C613	nsp	ELEC. CAPACITOR(33uF/16V,M,105,TAPING 5*7,MINI)		413-HDJ201-350	2
C614	00D9587032301	POLYESTER CAPACITOR(0.027uF/50V,J,TAPING)		413-HT8015-161	2
C615	00D9587032204	POLYESTER CAPACITOR(0.0082uF/50V,J,TAPING)		413-HT8015-160	2
C616	941134000520S	E.C.(4.7uF/25V,MINI)		413-SMX701-712	4
C617-C618	nsp	CHIP CAPACITOR(4700pF/50V,K,0603 TAPING,X7R)		413-007USB-789	4
C619	00D9587032806	ELEC. CAPACITOR(100uF/16V,M,105,TAPING 6.3*7,MINI)		413-HT801K-193	4
C621	00D9587032806	ELEC. CAPACITOR(100uF/16V,M,105,TAPING 6.3*7,MINI)		413-HT801K-193	4

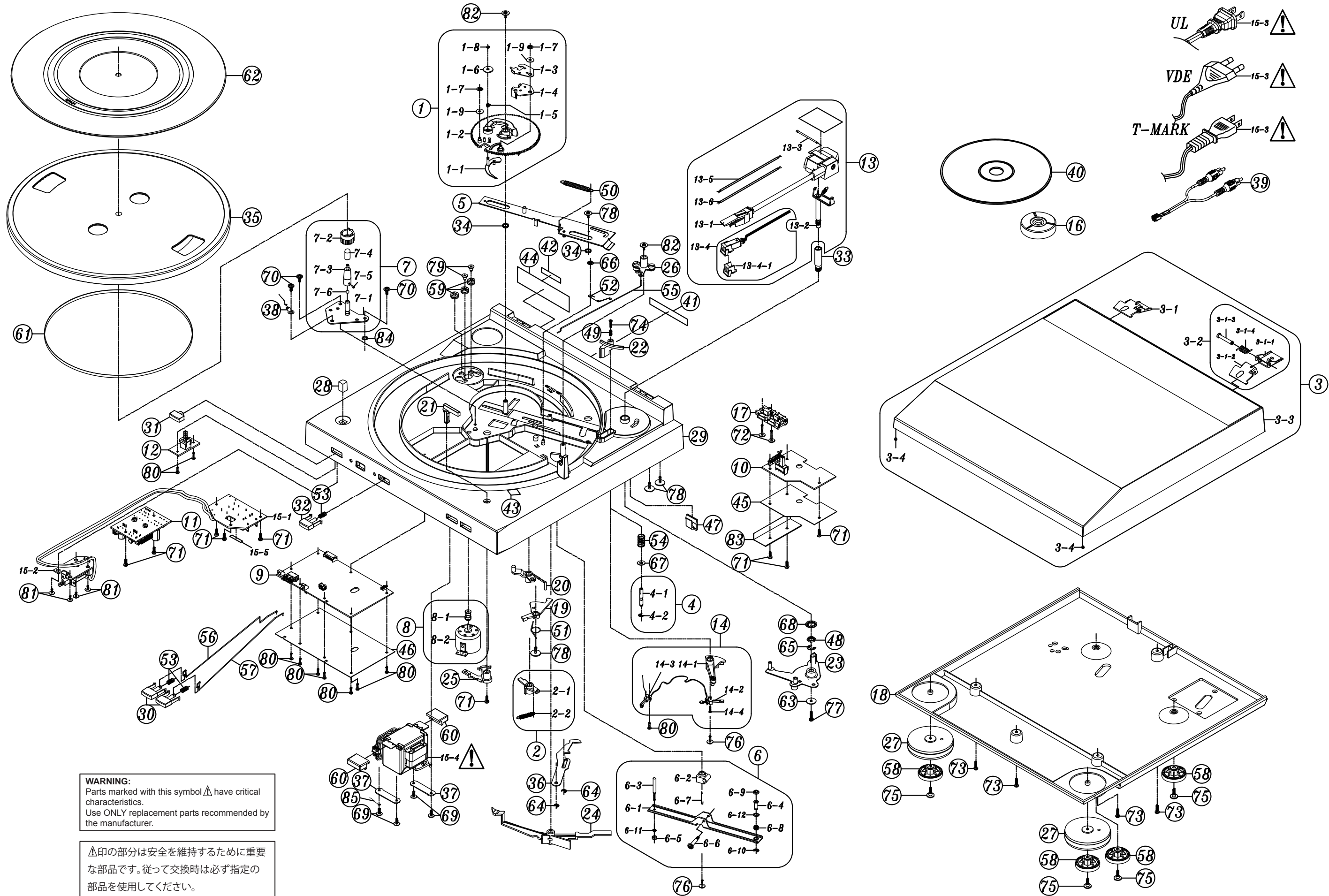
Ref No.	Part No.	Part Name	Remarks		Q'ty	New
C622	941134000430S	ELEC.CAPACITOR(22uF/25V,M,TAPING 5*11)		413-200USB-1119	1	
C623	941134000510S	ELEC. CAPACITOR(220uF/16V,M,105(,TAPING 6*7,MINI)		413-RMX30-883	1	
C624	941134000520S	E.C.(4.7uF/25V,MINI)		413-SMX701-712	4	
C625	nsp	CHIP CAPACITOR(4700pF/50V,K,0603 TAPING,X7R)		413-007USB-789	4	
C626	941134000520S	E.C.(4.7uF/25V,MINI)		413-SMX701-712	4	
C627	nsp	CHIP CAPACITOR(4700pF/50V,K,0603 TAPING,X7R)		413-007USB-789	4	
C628	00D9587032806	ELEC. CAPACITOR(100uF/16V,M,105 ,TAPING 6.3*7,MINI)		413-HT801K-193	4	
C629,C630	nsp	CHIP CAPACITOR(100pF/50V,J,0603 TYPE,NPO)		413-DCM280-767	4	
OTHER PARTS GROUP						
CN601	nsp	3P 2.5CONNECTOR WIRE (UL2547#28*2C TS GRAY L=340mm)		404-QFX-2425	1	
CN602	nsp	2P 2.0 CONNECTOR WIRE (L=270mm,UL1007#26 TS BLACK RED)		404-200USB-3076	1	
CN603	00D9587066403	3P SOCKET(CKM2501WV-3P.180°WHTIE)		404-HV3500K-623A	1	
JR1-JR4	nsp	CHIP RESISTOR(0 OHM,1/8W,1206,J,TP ,150V)		412-DJ3000-414	4	
L203,L204	90M-FC900430R	CHIP BEAD(SBK201209T-601Y-S)		415-1300-240	5	
L601,L602	90M-FC900430R	CHIP BEAD(SBK201209T-601Y-S)		415-1300-240	5	
L605	90M-FC900430R	CHIP BEAD(SBK201209T-601Y-S)		415-1300-240	5	
RELY1	941682000440S	RELAY(V23079-A2003-B301)		415-DJU5000-297	1	*
SW601	00D9410014001	SLIDE SW(SBB-22-14)		403-PXE90-028	1	
	nsp	GROUND WIRE FOR MECHA (L=50mm,AWM1007 AWG22,BLACK)		406-CDMIX1-518	1	
	nsp	CABLE TIE		504-S100-004	1	

SPEED/AC SW/AC/DC PCB ASS'Y

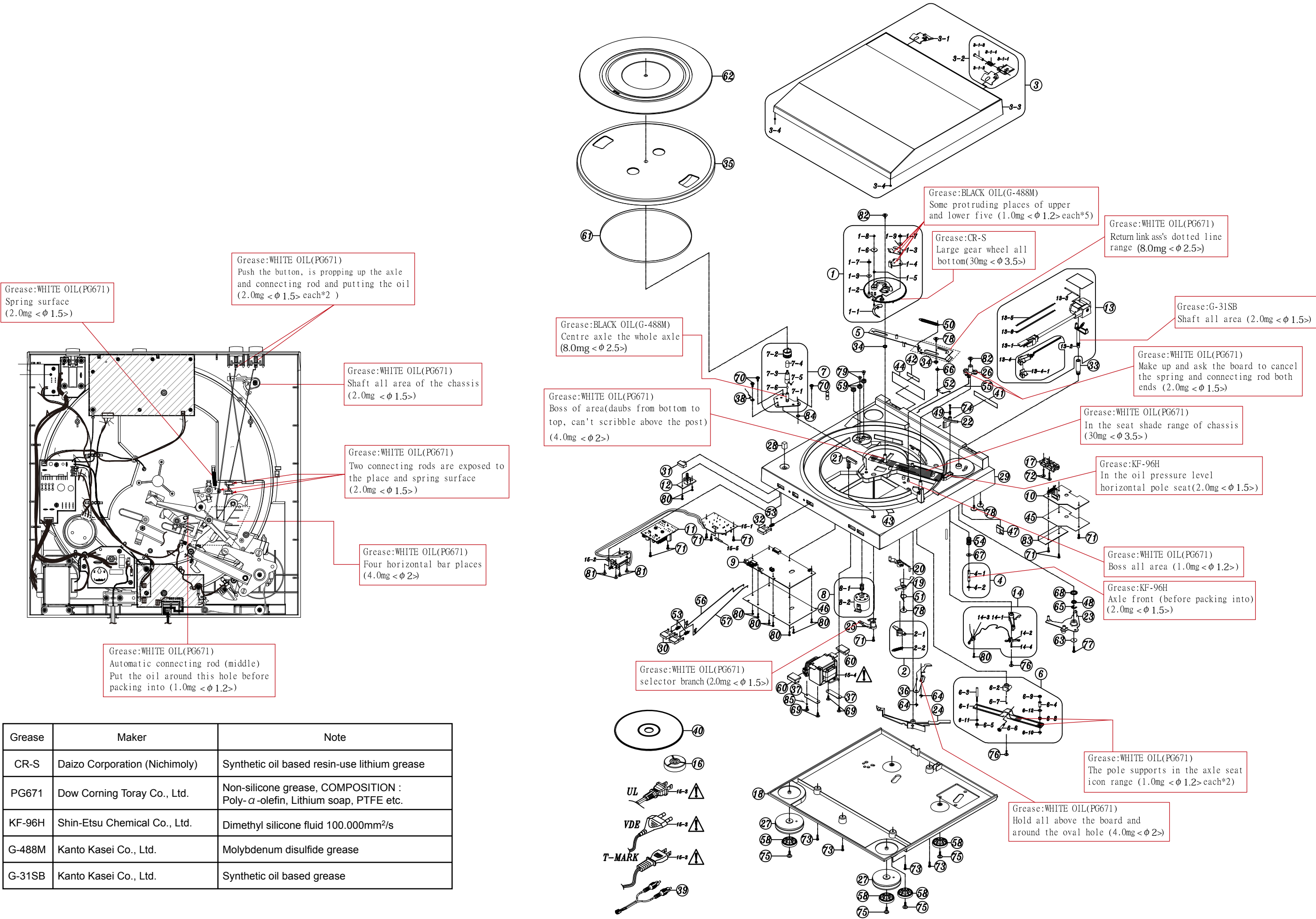
	Ref No.	Part No.	Part Name	Remarks		Q'ty	New
SEMICONDUCTORS GROUP							
	IC901	00D9587058107	IC(BA05T,3PIN)		417-CDN34A-314	1	*
	IC902	00D9410022103	IC(NJM7812FA 3PIN)		417-BJ1900L-231	1	*
	D901-D908	00D9410046804	DIODE(1N4002/1N4002TA,1A/100V,TAPING)		414-DV300-5014	8	
	D909	00D9587056701	DIODE(RB160M-30,SOD-123)		414-900-208	1	
CAPACITORS GROUP							
	C01	00D9580045308	MEX CAPACITOR(0.1uF/250V,K,BULK)		413-PROTT1-432	1	
⚠	C02	90M-DK100940R	AC SAFETY CAPACITOR(4700pF/250V,M,BULK,Y5V)		413-1431-104	1	
⚠	C03	90M-DK100940R	AC SAFETY CAPACITOR(4700pF/250V,M,BULK,Y5V)		413-1431-104	1	
	C901	00D9410055604	METAL POLYESTER CAPACITOR(0.1uF/AC125V,K)		413-DJ3500-884	2	
	C902	941134000530S	ELEC. CAPACITOR(470uF/10V,M, 105 ,TAPING 8*12)		413-HT8015-169	1	
	C903	00D9587053209	CERAMIC CAPACITOR(0.1uF/50V,Z,TAPING,Y5V)		413-3113-035	2	
	C904	00D9580044105	ELEC. CAPACITOR(1000uF/25V,M, 105 ,BULK 10*20)		413-DJ1900-111	1	
	C905	00D9587055906	ELEC.CAPACITOR(100uF/16V,M,105 ,TAPING 5*11)		413-PXE90-109	1	
	C906	00D9587053209	CERAMIC CAPACITOR(0.1uF/50V,Z,TAPING,Y5V)		413-3113-035	2	
	C907	00D9410055604	METAL POLYESTER CAPACITOR(0.1uF/AC125V,K)		413-DJ3500-884	2	
	C908	00D9587053500	ELEC. CAPACITOR(2200uF/16V,M, 105 ,BULK 13*21)		413-3113-053	1	
OTHER PARTS GROUP							
	AC-L	nsp	PIN(NS-1105)		300-B604-114	2	
	AC-N	nsp	PIN(NS-1105)		300-B604-114	2	
	ATO	nsp	LEAD WIRE(L=370mm,AWM1617 AWG22,RED)		406-DJ5500-680	2	
	BOB	nsp	LEAD WIRE(L=370mm,AWM1617 AWG22,RED)		406-DJ5500-680	2	
	CN1	nsp	2P 2.0 CONNECTOR WIRE (L=210mm,UL1007#26 TS BLUE/WHITE)		404-200USB-3074	1	
	CN901	941644000540S	4P SOCKET(CKM2501WV-4P 180°WHITE)		404-HV3500K-629A	1	
	CN902	941644000550S	2P SOCKET(CKM2001WV-2P,180°WHITE)		404-HP1010K-257A	2	
	CN903,CN904	941644000560S	2P SOCKET(CKM2001WR-2P 90°WHITE)		404-DJ3000-847A	2	
⚠	F01	941652000300S	FUSE(250mA/250V,UL/CSA,5*20mmSLOW)	E3	422-BJ2300A-021	1	*
⚠	F01	941652000420S	FUSE(T125mA/250V,VDE/UL)	E2	422-Q2231-084A	1	*
⚠	FL1	00D9410022608	FILTER(FKOB160MH02)		415-1300-239	1	
	JR1,JR2	nsp	CHIP RESISTOR(0 OHM,1/8W,1206,J,TP ,150V)		412-DJ3000-414	2	
	SW1	941661000320S	POWER SW(SDDL1177U-HF3)		403-C304-218	1	
	SW2	00D9410058708	PUSH SW(SPEC12HC12-HF,L=12.5)		403-300F-255	1	
		nsp	1P GROUND WIRE(L=190mm,AWM1617,AWG22,BLACK)		406-BJR100-999	1	
		nsp	CERAMIC TUBE (4*2*11.5mm)		605-KMD510P-034	8	
		nsp	FUSE CLIPS(FS-001)	F01	420-KT350A-004	2	
		nsp	FUSE COVER		504-DJ2500J-046	1	
		nsp	FUSE LABEL(20*4mm,t=0.08mm)	E2	501-200UBKE2-1176	1	*
		nsp	FUSE LABEL(20*4mm,t=0.08mm)	E3	501-200UBKE3-1176	1	*
		nsp	GROUNG WIRE(L=80mm,AWM1007 AWG22.BLACK)		406-DJ100-550	1	
		nsp	HEAT SINK((AL,HW-7004))		425-ST150-064	1	*
		nsp	HEAT-SHRINKABLE TUBE		605-HDJ201F-050	0	*
		nsp	SCREW(3*8mm TTB)		602-2002-077	2	
		nsp	SCREW(3*L8)		602-HP1010K-175	3	

-MEMO-

EXPLODED VIEWS



POINTS OF GREASING



PARTS LIST OF EXPLODED VIEW

- * Parts for which "nsp" is indicated on this table cannot be supplied.
- * P.W.B. ASS'Y for which "nsp" is indicated on this table cannot be supplied. When repairing the P.W.B. ASS'Y, check the board parts table and order replacement parts.
- * The parts listed below are for maintenance only, might differ from the parts used in the unit in appearances or dimensions.

Note:The symbols in the column "Remarks" indicate the following destinations.

BKE3 : U.S.A. & Canada model (Black model)

BKE2 : Europe model (Black model)

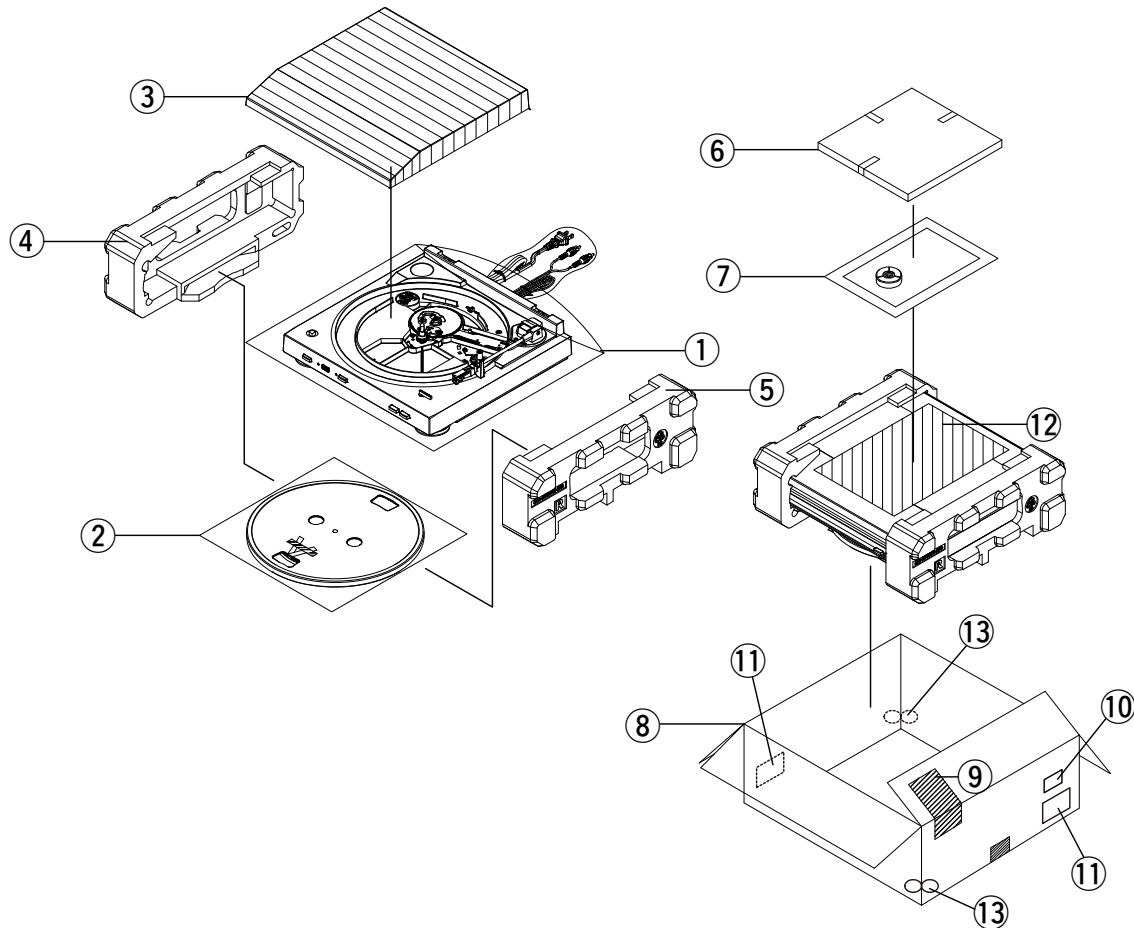
SPE2 : Europe model (Premium Silver model)

Ref.No.	Part No.	Part Name	Remarks		Q'ty	New
9	nsp	REC PCB ASS'Y		704-200USB-8134	1	*
10A	nsp	PH/LI/SPEED/AC SW/AC/DC PCB ASS'Y			1	*
10	-	PH/LI PCB ASS'Y		704-200USB-8135		
11	-	DC PCB ASS'Y		704-200USB-8136		
12	-	SPEED PCB ASS'Y		704-200USB-8139		
1	00D9410012401	CAM GEAR ASS'Y		701-SL24F-192	1	
1-1	-	CAM GEAR CONTROL ASS'Y		703-SL24F-050	1	
1-2	-	CAM GEAR		100-SL24F-248	1	
1-3	-	FRICTION LINK		300-SL24F-130	1	
1-4	-	ACTUATING LINK		300-SL24F-131	1	
1-5	-	SPRING		603-SL24F-077	1	
1-6	-	WASHER		606-F200-006	1	
1-7	-	CS WASHER (3mm)		606-F200-013	2	
1-8	-	E-RING WASHER (2mm)		606-B300-029	1	
1-9	-	WASHER		606-SL24F-057	2	
2	nsp	PENDULUM ASS'Y		701-SL24F-822	1	
2-1	00D9410002204	PENDULUM(S)		100-SL24F-240	1	
2-2	00D9410007306	SPRING		603-SL24F-066	1	
3	nsp	DUST COVER ASS'Y		701-DP29FK-2436	1	
3-1	00D9410002709	HINGES ASS'Y (BLUE)		703-B600-026B	1	
3-2	00D9410010704	HINGES ASS'Y (YELLOW)		703-B600-030	1	
3-3	00D9410001205	DUST COVER		100-DP29FK-325	1	
3-4	00D9410008509	RUBBER(S.B.R)		604-B600-026A	2	
4	nsp	SHAFT ASS'Y		702-SL24F-011	1	
4-1	00D9410003407	SHAFT		200-SL24F-116	1	
4-2	00D9410009207	E-RING WASHER (3mm)		606-F200-011	1	
5	941469000380D	RETURN LINK ASS'Y		703-200-1239	1	
6	nsp	SHAFT ASS'Y		703-L100-063	1	
6-1	00D9410010607	CUEING LEVER ASS'Y		703-SL24F-052	1	
6-2	00D9410002301	SHAFT HOLDER		100-SL24F-241	1	
6-3	00D9410003106	LOCUS SHAFT		200-SL24F-112	1	
6-4	00D9410003300	SHAFT		200-SL24F-114	1	
6-5	00D9587038606	NUT(M3*P0.5)		601-A100-004	1	
6-6	00D9410007005	SCREW		602-SL24F-100	1	
6-7	00D9410007704	SPRING		603-SL24F-072	1	
6-8	941472000400S	SPRING		603-SL24F-078	1	
6-9	00D9410009003	RUBBER CAP		604-SL24F-039	1	
6-10	00D9410009207	E-RING WASHER (3mm)		606-F200-011	1	
6-11	00D9410009702	WASHER(5.5*3*0.7t)		606-B300-039	1	
6-12	00D9410010102	WASHER		606-SL24F-056	1	
7	00D9410012304	CENTER&PINION ASS'Y		703-F703-253	1	
7-1	-	SHAFT & HOLDER ASS'Y		703-SL24F-051C	1	
7-2	-	SMALL GEAR		100-SL24F-244	1	
7-3	-	CENTER SHAFT		200-SL24F-105A	1	
7-4	-	SPINDLE RING		200-SL24F-123	1	
7-5	-	SCREW(1.7*2.8mm)		602-SL24F-093	1	
7-6	-	STEEL BALL		607-B600-002	1	
8	941684000390S	MOTOR ASS'Y (M09S12U13-3,DC9~12V)		704-F706-7303	1	
8	-	or MOTOR ASS'Y (CCM09-120R2-9)		704-F706-7303	1	
8-1	-	PULLEY		200-SL24F-109	1	
8-2	-	MOTOR(M09S12U13-3,DC9~12V)		401-H703-038B	1	
8-2	-	or MOTOR(CCM09-120R2-9)		401-H703-038A	1	

	Ref.No.	Part No.	Part Name	Remarks		Q'ty	New
	13	941319000600S	TONE ARM ASS'Y	BKE2, BKE3	704-200K-8140	1	*
	13	941319000610S	TONE ARM ASS'Y	SPE2	704-200SP-8141	1	*
	13-1	-	TONEARM SETTING & HEADSHELL ASS'Y	BKE2, BKE3	701-200K-4465	1	*
	13-1	-	TONEARM SETTING & HEADSHELL ASS'Y	SPE2	701-200SP-4469	1	*
	13-2	-	ROTARY SHAFT & SPRING ASS'Y		703-SL34F-058	1	
	13-3	-	BALANCE WEIGHT HOLDER PIN		200-SL24F-118	1	
	13-4	00D9410003711	CARTRIDGE(CN-6516[M-6516])		402-F804-065	1	
	13-4-1	00DDSN84	STYLUS			1	
	13-5	-	TONE ARM SHILED WIRE (UL1571,32AWG,WHITE,370mm)		407-PXE90-090	1	
	13-6	-	TONE ARM SHILED WIRE(UL1571,32AWG,RED,370mm)		407-PXE90-091	1	
	14	941319000640S	SWITCH& SET ASS'Y		704-200USB-8142	1	
	14-1	-	SWITCHING SETING ASS'Y		701-SL24F-191	1	
	14-2	-	LEAF SW ASS'Y		704-F601-1361	1	
	14-3	-	LEAF SW(LSA-1123-4,2PIN)		403-SL24F-011	1	
	14-4	-	SCREW(2*8 ,PTP)		602-K680-088	1	
	15	nso	TRANSFORMER & AC CORD ASS'Y	BKE2,SPE2	704-200USB2-8157	1	*
	15	nsp	TRANSFORMER & AC CORD ASS'Y	BKE3	704-200USB3-8158	1	*
△	15-1	nsp	AC PCB ASS'Y	BKE2,SPE2	704-200USB2-8156	1	*
△	15-1	nsp	AC PCB ASS'Y	BKE3	704-200USB-8232	1	*
	15-2	nsp	AC SW PCB ASS'Y		704-200USB-8138	1	*
	15-3	941611000060S	AC POWER CORD(L=1980+/-50mm,VDE TYPE)	BKE2,SPE2	409-3004-016E	1	
	15-3	00D9410039109	AC POWER CORD(L=2130mm,UL TYPE)	BKE3	409-HMD5000-053A	1	
△	15-4	941101000080S	TRANSFORMER(AC230V,50Hz)	BKE2,SPE2	411-200USB-736	1	*
△	15-4	941101000090S	TRANSFORMER(AC120V,60Hz)	BKE3	411-200USB-735	1	*
	15-5	nsp	FUSE LABEL(20*4mm,t=0.08mm)	BKE2,SPE2	501-200UBKE2-1176	1	*
	15-5	nsp	FUSE LABEL(20*4mm,t=0.08mm)	BKE3	501-200UBKE3-1176	1	*
	16	00D9410001001	45 RPM ADAPTOR		100-H200-016	1	
	17	941411000630D	STRAIN RELIEF		100-29FBKEU-144	1	
	18	nsp	BOTTOM PLATE	BKE2	100-200-326BS	1	
	18	nsp	BOTTOM PLATE	BKE3	100-200KE3-326BS	1	
	18	nsp	BOTTOM PLATE	SPE2	100-200SP-326B	1	
	19	00D9410001603	PENDULUM(L)		100-SL24F-234	1	
	20	00D9410001700	PENDULUM(M)		100-SL24F-235	1	
	21	941412000110D	SELECT RECORD KNOB (ABS BLACK)	BKE3	100-200K-236	1	*
	21	941412000120D	SELECT RECORD KNOB (ABS SILVER)	SPE2	100-200SP-236	1	*
	22	00D9410002000	LIFTER(ABS BLACK)		100-SL24F-238	1	
	23	00D9410002408	SPEED BRACKER ASS'Y		100-SL24F-242	1	
	24	00D9410002505	SPEED SUPPORT		100-SL24F-243	1	
	25	941412000650S	SELECTOR		100-SL24F-245	1	
	26	00D9410002806	SELECT PLATE		100-SL24F-247	1	
	27	00D9410010403	FOOT(ABS)		100-PXE90-332	2	
	28	941412000100D	SQUARE KNOB	BKE2, BKE3	100-200K-1662	1	*
	28	941412000130D	SQUARE KNOB	SPE2	100-200SP-1662	1	*
	29	941401000140D	CHASSIS	BKE2	100-200K-2606	1	*
	29	941401000150D	CHASSIS	BKE3	100-200KE3-2606	1	*
	29	941401000180D	CHASSIS	SPE2	100-200SP-2606	1	*
	30	941412000160D	KNOB	BKE2, BKE3	100-200K-2607	2	*
	30	941412000170D	KNOB	SPE2	100-200SP-2607	2	*
	31	941412000190D	POWER BUTTON	BKE2, BKE3	100-200K-2608	1	*
	31	941412000200D	POWER BUTTON	SPE2	100-200SP-2608	1	*
	32	941412000210D	RECORD BUTTON	BKE2, BKE3	100-200K-2609	1	*
	32	941412000220D	RECORD BUTTON	SPE2	100-200SP-2609	1	*
	33	00D9410003009	TONEARM SHAFT SET		200-SL24F-107	1	
	34	00D9410003504	COPPER WASHER		200-SL24F-117A	2	
	35	00D9410002903	TURNTABLE(AL)		200-F703-203	1	
	36	00D9410003601	CONTROL PLATE		300-SL24F-126	1	
	37	nsp	PLATE		300-HPR200-1622	2	*
	38	nsp	1P GROUND WIRE(L=150mm,AWM1015 AWG22,BLACK)		406-120-763	1	
	39	941612000720S	SIGNAL WIRE(L=1200mm)		408-200USB-094	1	
	40	941541000370D	SOFTWARE DISC		429-200USB-051	1	*

	Ref.No.	Part No.	Part Name	Remarks		Q'ty	New
	41	00D9410003902	CAUTION LABEL(70*10mm,t=0.1mm)		501-DP29FK-823	1	
	42	00D9410025401	LABEL(BARE,36*8mm,t=1.2mm)		501-DV300-1067	1	*
	44	nsp	RATING LABEL(97*25mm,t=0.08mm)	BKE2,SPE2	501-200UE2-2176	1	*
	44	nsp	RATING LABEL(97*25mm,t=0.08mm)	BKE3	501-200UE3-2176	1	*
	45	nsp	SEGREGATE SHEET(87.3*62.5*0.6t)		501-200-2178	1	*
	46	nsp	SEGREGATE SHEET(141.5*82*0.6t)		501-200-2179	1	*
	47	nsp	WIRE MOUNT(FW-2-3M,WHITE)		504-ST100-118	1	
	48	00D9410005803	NUT		601-SL24F-011	1	
	49	00D9410007209	SPRING		603-MD26-059	1	
	50	00D9410007403	SPRING(SUS,304,WPB)		603-SL24F-067	1	
	51	00D9410007500	SPRING(SUS,304,WPB)		603-SL24F-068	1	
	52	00D9410007607	SPRING(SUS,304,WPB)		603-SL24F-069	1	
	53	00D9410008101	SPRING(PLAY,STOP KNOB)		603-SL24F-076	3	
	54	941472000660S	SPRING		603-SL24F-079	1	
	55	00D9410008004	SPRING		603-L100-103	1	
	56	941472000670S	PLAY SPRING		603-200-372	1	
	57	941472000680S	STOP SPRING		603-200-373	1	
	58	00D9410008703	RUBBER		604-SL24F-036A	4	
	59	00D9410008907	MOTOR PLASTIC CUSHION		604-SL24F-038	3	
	60	00D9580035402	CUSHION RUBBER FOR TRANSFORMER		604-DJ1900-064	2	*
	61	00D9410008800	BELT		604-PXE90-076	1	
	62	941409000690S	SLIPMAT		604-DP29FK-205A	1	
	63	00D9410009100	WASHER		606-F200-006	1	
	64	00D9410009207	E-RING WASHER (3mm)		606-F200-011	2	
	65	00D9410035307	E-RING WASHER (5mm)		606-F200-012	1	
	66	00D9410009401	CS WASHER (3mm)		606-F200-013	1	
	67	00D9410009508	WASHER		606-H200-019	1	
	68	00D9410010005	WASHER		606-SL24F-055	1	
	69	00D9580034908	SCREW(SAE1018,PTP, 3*L10)		602-M400-055	4	
	70	00D9580035606	SCREW(SAE1018,WPTP,M3*8)		602-B600-056	3	
	71	00D9410006006	SCREW(SAE1018,PTP, 3*L8)		602-B600-057	9	
	72	00D9410005405	SCREW(3*16mm)		602-B600-059	2	
	73	00D9410006103	SCREW		602-B600-072	4	
	74	00D9410006200	SCREW(2*10mm JMB BLACK)		602-MD26-081	1	
	75	00D9410006404	SCREW(PTP)		602-SL24F-092	4	
	76	00D9410006501	SCREW(PTP)		602-SL24F-094	2	
	77	00D9410006608	SCREW		602-SL24F-095	1	
	78	00D9410006802	SCREW(M3*9 PTP)		602-SL24F-097	4	
	79	00D9410006909	SCREW		602-SL24F-098	2	
	80	00D9580034801	SCREW(SAE1018,PTP,M2.6*L8)		602-SL24F-099	10	
	81	941519000700S	SCREW(WPTP,2.6*6,W=7.5)		602-WPTP2606-660Z	4	
	82	941519000710S	SCREW(WPTP, 2.6*L7,CAP 10)		602-DV300-5023	2	
	83	nsp	INSULATION SHEET(58*26.4*0.5t)		501-200-2200	1	*
	84	00D9410010102	WASHER		606-SL24F-056	1	
	85	nsp	LOCKING CABLE CLIP (WC-1AM-M9B, 5.6,L=35.6mm,BLACK)		504-HV3500K-033	1	

PACKING VIEW



PARTS LIST OF PACKING & ACCESSORIES

* Parts for which "nsp" is indicated on this table cannot be supplied.

* The parts listed below are for maintenance only, might differ from the parts used in the unit in appearances or dimensions.

Note: The symbols in the column "Remarks" indicate the following destinations.

BKE3 : U.S.A. & Canada model (Black model)

BKE2 : Europe model (Black model)

SPE2 : Europe model (Premium Silver model)

Ref.No.	Parts No	Part Name	Remarks		Q'ty	New
1	00D9410011509	POLYBAG		505-HM500A-048	1	
2	00D9410002903	ALUMINIUM PLATTER		200-F703-203	1	
3	nsp	DUST COVER ASS'Y		701-DP29FK-2436	1	
4	00D9410011305	POLYFOAM L		506-DP29FK-293L	1	
5	00D9410011402	POLYFOAM R		506-DP29FK-293R	1	
6	00D9410008619	SLIPMAT PACKING ASS'Y		705-DP29FK-721A	1	
7	nsp	I/B ASS'Y	SPE2,BKE2	701-200UBKE2-4476	1	*
7	nsp	I/B ASS'Y	BKE3	701-200UBKE3-4477	1	*
7-1	00D9410001001	45 RPM ADAPTOR		100-H200-016	1	
7-2	941541000370D	SOFTWARE DISC		429-200USB-051	1	*
7-3	941541000240D	I/B	SPE2,BKE2	502-200UBKE2-2666	1	*
7-3	941541000250D	I/B		502-200UBKE3-2667	1	*
7-4	nsp	SERVICE SHEET (543110032005D)		502-DCM280-1347H	1	
7-5	nsp	PE BAG		505-DJ2500H-014	1	
8	941531000280D	GIFT BOX	SPE2	507-200SPE2-2236	1	*
8	941531000290D	GIFT BOX	BKE2,BKE3	507-200KE2-2236	1	*
9	nsp	WARRANTY ASS'Y	BKE3	701-DCM370E3-1810	1	
10	nsp	BAR CODE	SPE2	501-200USPE2-1248	1	*
10	nsp	BAR CODE	BKE2	501-200UBKE2-1248	1	*
10	nsp	BAR CODE	BKE3	501-200UBKE3-1248	1	*
11	nsp	LABEL (CONT.CARD SUB ASS'Y)	SPE2	701-200USPE2-3513	2	*
11	nsp	LABEL (CONT.CARD SUB ASS'Y)	BKE2	701-200UBKE2-3513	2	*
11	nsp	LABEL (CONT.CARD SUB ASS'Y)	BKE3	701-200UBKE3-3513	2	*
12	941543000590S	NOTICE SHEET(543110068004D)		502-DP200U-2678	1	*
13	nsp	COLOR LABEL	SPE2	501-300FSPE2-1906	2	

-MEMO-

NOTE FOR SCHEMATIC DIAGRAM

WARNING:

Parts marked with this symbol ⚠ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

CAUTION:

Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 460 kohms, the unit is defective.

WARNING:

DO NOT return the unit to the customer until the problem is located and corrected.

NOTICE:

ALL RESISTANCE VALUES IN OHM. k=1,000 OHM

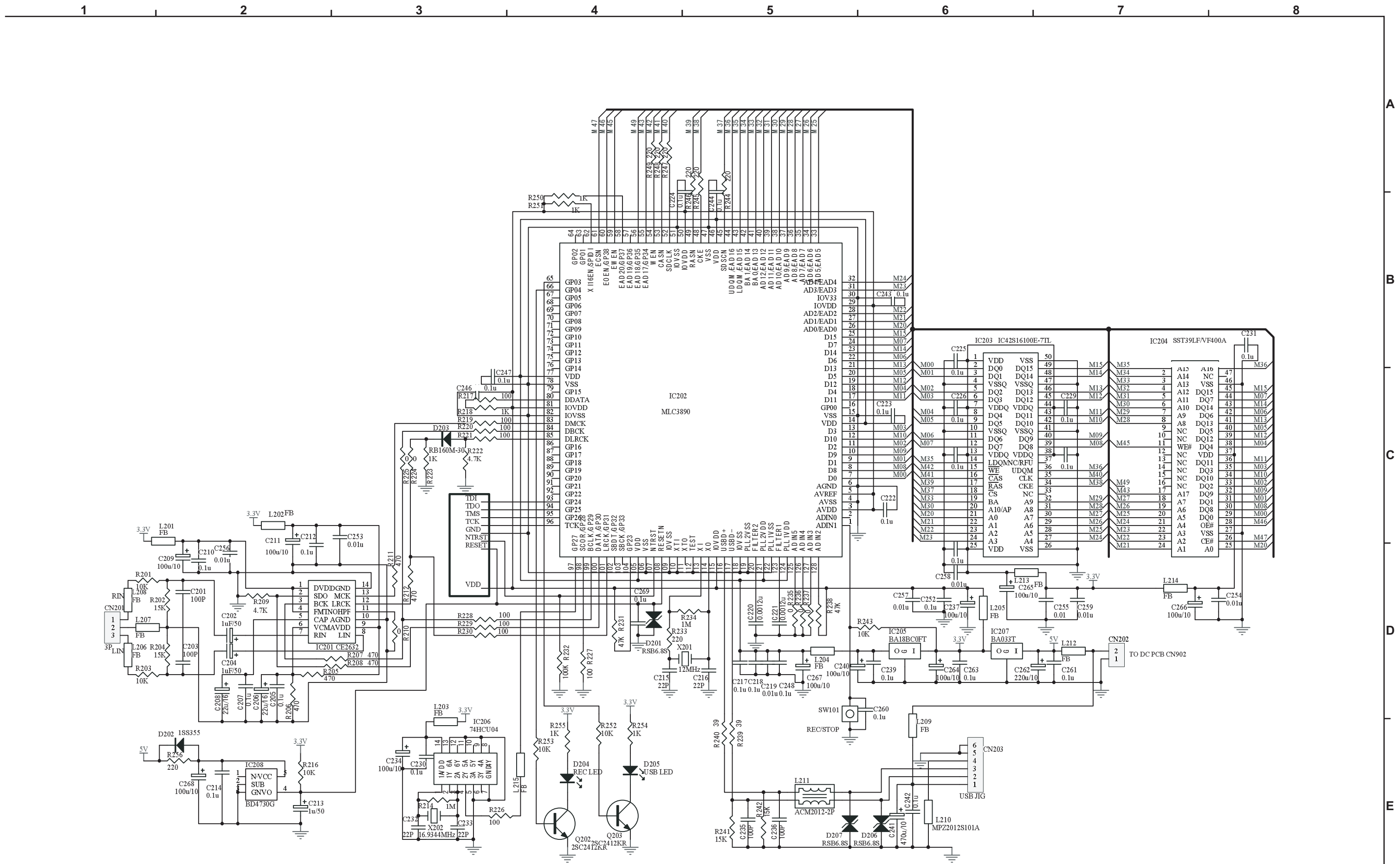
M=1,000,000 OHM

ALL CAPACITANCE VALUES IN MICRO FARAD.

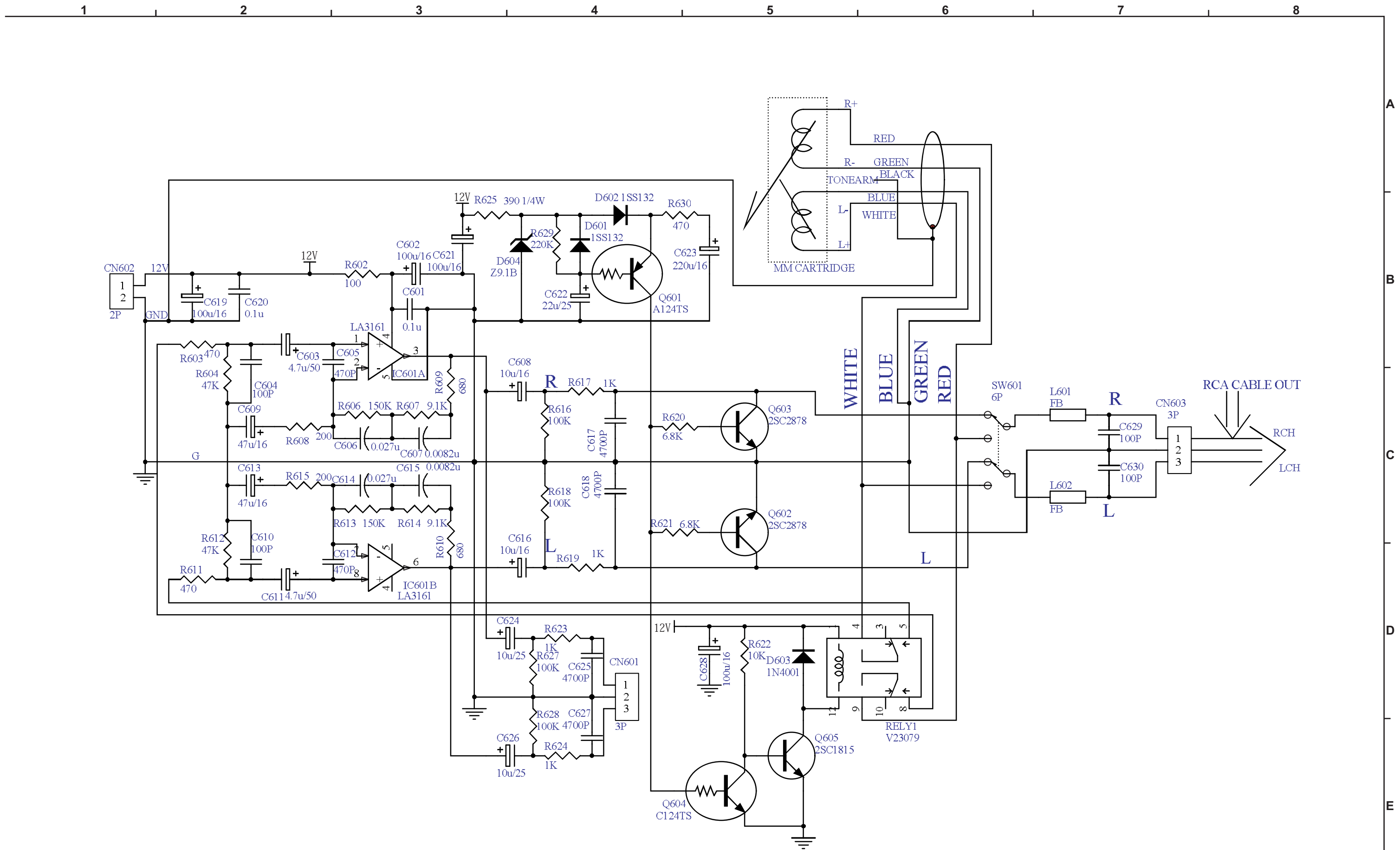
P=MICRO-MICRO FARAD

EACH VOLTAGE AND CURRENT ARE MEASURED AT
NO SIGNAL INPUT CONDITION.

CIRCUIT AND PARTS ARE SUBJECT TO CHANGE
WITHOUT PRIOR NOTICE.



SCHEMATIC DIAGRAMS (1/3)



SCHEMATIC DIAGRAMS (2/3)

